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1.1 SYSTEM DEMAND AND RELIABILITY

Florida Power and Light has prepared the St Lucie Unit 2 Environmental Report - Operating License as part of the application to the US Nuclear Regulatory Commission for a St Lucie Unit 2 Operating License. Chapter 1 of this document presents updated and additional information which has been derived since the submittal of the St Lucie Unit 2 Environmental Report - Construction Permit, and supports the need for St Lucie Unit 2.

The requirement for new generating capacity from St Lucie Unit 2 is based on the historical and projected growth of power requirements within Florida Power & Light's system. To meet this growth, the current 1979 system capability of 10,957 MW must be expanded to meet the forecasted 1983 peak demand (most probable) of 10,715 MW plus an adequate reserve to maintain system capability and reliability. The addition of St Lucie Unit 2 in 1983 with net summer capability of 802 MW* is necessary to provide generating capacity to serve the projected loads.

1.1.1 LOAD CHARACTERISTICS

1.1.1.1 Florida Power and Light System

Florida Power & Light Company was incorporated in 1925 to manufacture, distribute and sell electricity. Service is provided to approximately 650 communities along most of the east and lower west coasts of Florida, the area around southern and eastern Lake Okeechobee, and portions of north and north-central Florida. The territory covers 27,650 square miles and has 2,032,300 customers. The population in the service area represents 50 percent of the population of Florida.

Florida Power & Light, with 13 other operating utilities comprise the Florida Subregion of the Southeastern Electric Reliability Council (SERC). SERC (in toto) consists of 28 members from the greater portion of the southeastern states. The member utilities are from Florida, Georgia, Alabama, Tennessee, North and South Carolina, as well as portions of Mississippi, Kentucky, and Virginia. Table 1.1-1 presents a complete listing of SERC members with their respective subregions.

SERC is one of the council members of the National Electric Reliability Council (NERC) formed in 1968 with the stated purpose: "...further to augment the Reliability and Adequacy of bulk power supply in the electric utility systems of North America."

NERC consists of the nine Regional Reliability Councils presented in Figure 1.1-1 and encompasses essentially all of the power systems of the United States, as well as Canadian systems in Ontario, British Columbia, and Manitoba. The stated goals of SERC fall directly in line with those of NERC and the other member councils, all with the view to encourage development of reliability and adequacy among the systems within the region. The agreement by which all SERC members abide is presented in Appendix 1.1A.

*Actual rating is 802 MW, however, 55 MW have been offered for sale to other utilities.

1.1.1.2 Load Forecast

The load forecast portion of the load forecast plan is presented in five sections. The first two sections describe the basic statistical methodology used in the development of the present net energy and peak load forecasts, respectively. Part three describes how the effects of conservation on FP&L's expected growth are modeled. Part four is a discussion of the development of the high, most probable, and low estimates which determine the forecast band through the use of simulation methods. Part five is a summary of the principal assumptions used in the preparation of the peak load and energy forecasts.

1.1.1.2.1 Energy Forecast Model

The economy of Florida Power & Light Company's service area is dominated by tourism, construction, agriculture, service industries, and light manufacturing. To adequately forecast the energy requirements for the area, this unique mix had to be recognized. In order to more accurately evaluate and project the patterns of growth for the coming years, separate forecasting equations were developed for each of the major classes of users: residential, commercial, and industrial, which account for about 93 percent of total energy sales. The remainder of total sales is forecast by extrapolation of historical data. These models are a combination of econometric and engineering methodologies.

a) Residential

The residential energy forecast begins with an estimate of the factors that influence the residential sector. The model was developed by using regression analysis over 12 years of energy sales data on a per customer basis. The forecast of total residential energy is equal to the product of residential energy per customer and the number of residential customers. This total is then reduced for the effects of conservation (described in 1.1.1.2.3).

Residential energy sales per customer are represented in the equation as functions of the following:

- Real per capita personal income in Florida
- Real price per residential kilowatt-hour (kWh)
- Air conditioning saturation
- Electric heating saturation
- Cooling and heating degree days

Yearly incremental growth rates for all of the above variables were used to eliminate variable interdependency.

b) Commercial

The commercial sector in Florida is comprised primarily of tourist and service industries. After considerable study, a model was derived in which commercial sales are a function of total employment in Florida and FP&L's residential customers from the previous year.

Using the previous year's residential customers accounts for the delay in the opening of such commercial ventures as shopping centers and restaurants following the occupancy of new residential homes. The total employment variable is used as a measure of the general economic conditions because it tracks the business cycle.

c) Industrial

Industrial energy use represents about eight percent of the total energy sales and is incorporated into the forecast by considering two factors. First, industrial sales are correlated against employment in an incremental growth rate model. This gives a general impression of how present industry is developing. Secondly, new industry is forecasted by direct contact with the companies themselves. All new industrial customers whose projected use is at least 20 megawatts (MW) are entered into the forecast directly. Coordination of these new industrial loads is accomplished through the divisions that encompass Florida Power & Light Company's service area.

1.1.1.2.2 Peak Load Model

Unpredictable variations in weather conditions can result in considerable variation in the use of air conditioning during the summer and electric heat during the winter. For analytical purposes, the peak load was separated into two components; non-weather sensitive and weather sensitive. This approach was taken in developing both a summer and a winter peak load model.

The non-weather sensitive component is defined as the average of the peak load for those weekdays (excluding holidays) when the average temperature for the day was between 65 and 75 degrees inclusive, and reflects the growth in load over time. This demand is predominantly determined by the economic environment and shows the average load when weather sensitive appliances are least used. This portion is forecast on a per customer level by using real price of electricity, Florida employment, and real per capita personal income in Florida.

The weather sensitive component is defined as the difference between the actual peak and the base load for the period. It represents the load in excess of the base load which is primarily a function of weather conditions. The summer and winter weather sensitive components are forecast on a per customer level and are related to average daily temperature, the real price of electricity, the saturation of air conditioners (summer) and electric heaters (winter) on the FP&L system.

Regression analysis was used to develop the non-weather sensitive load and the separate summer and winter weather sensitive load models. Having developed the regression equations, the relevant variables were then projected and combined with the projections of the number of customers to determine the non-weather and weather sensitive load forecasts. The forecasts for these two components were then summed to produce total summer and winter peak load forecasts. This peak load forecast is then reduced by the effects of certain types of conservation. The impact of conservation, as described below, is calculated from FP&L studies on residential load factor and demand reduction associated with energy efficient homes.

1.1.1.2.3 Conservation

The regression techniques described previously are used to derive equations that forecast long term energy and peak demand. These equations are based solely on history and cannot predict the effects of future changes in technology or consumer life-style. In order to forecast accurately, future changes must be predicted and incorporated into the forecast separately from the regression equations. These changes must be identified, assumptions made about the significant parameters, and the results subsequently entered into the forecast.

In addressing conservation, three areas have been identified as significant and having a high probability of occurrence: they are appliance efficiency improvements, solar water heating, and energy efficient homes.

a) Appliance Efficiency

The Department of Energy, in the Federal Register of October 12, 1978, mandates that by January 1, 1980, all new appliance sold must meet specified efficiency improvement targets. The overall efficiency improvement target is set at approximately 20 percent over 1972 levels. To incorporate the effects of these regulations, FP&L developed an appliance efficiency model.

The appliance efficiency model is an end-use engineering model comprised of 11 sub-models. There is one sub-model for each of ten major appliances plus a miscellaneous appliance sub-model. Input data include the efficiency improvement target for each appliance, the energy consumption per appliance for 1977 (weather adjusted), the 1977 appliance saturations, the growth rates for those saturations, and the number of residential customers for each year.

The usage forecast for each of the 11 sub-models is summed to give the total usage per residential customer. This usage per customer is not used directly because this appliance efficiency model does not account for price and income effects as does the econometric model. For this reason, a reference case is run on the appliance efficiency model with the efficiency improvements set to zero. The ratio of usage per residential customer with more efficient appliances to usage per residential customer without appliance efficiency improvement is then entered into the econometric model as a multiplier of usage per residential customer.

b) Solar Water Heating

Solar water heating is an established technology as evidenced by the numerous manufacturers offering solar water heating systems. The only assumption needed to assess its impact is the rate at which solar water heaters will penetrate the market. This penetration rate is estimated by using a life-cycle curve and reinforced by a Delphi technique.

In order to incorporate the effects into the forecast, the solar water heating model is combined with the appliance efficiency model. This is done by reducing the saturation of electric water heaters from what it would be in the absence of replacement of solar water heaters under the appliance efficiency model.

c) Energy Efficient Homes

Florida Power & Light Company has, as have other utilities in the United States, developed an energy efficient home program. This program, known as Watt-Wise Living, will encourage home buyers and builders to insist on permanently installed conservation features in new homes. The primary emphasis is placed on structural improvements such as insulation and utilization of a rectangular floor plan. By definition, a home qualifying as a Watt-Wise home uses one-third less energy than a comparable "standard" home.

To assess the impact of this energy reduction on residential sales and system peak, the percentage of residential customers that will use single family homes is forecast. Next, the percentage of energy efficient single family homes is forecast. For each of these Watt-Wise homes, 7,290 kWh (the one-third reduction mentioned above) is subtracted from the preliminary energy sales forecast.

For many years, FP&L has actively maintained a program to provide its customers maximum benefits from the use of electric energy, by reducing waste and unnecessary losses. Through many thousands of field representative contacts with residential, commercial and industrial customers, FP&L has helped improve the efficiency of energy use and ultimately reduce the customer's bill. Long before the oil embargo and subsequent "energy crisis", hundreds of thousands of "Helpful Hints" booklets had been distributed on the use of major appliances and air conditioning, including promotion of home insulation.

FP&L intensified its public awareness and conservation efforts in 1973 by instituting the broad based "Wise Energy Management" program. The philosophy of the program is that with the inevitable increase in energy usage with economic growth, FP&L has a public mandate to advise its customers in the most efficient use of energy through reestablishment of direct communication. FP&L promotes its conservation measures through television advertisements, radio commercials, newspaper advertisements, bill insert messages, brochures, consumer education programs, personal counseling for commercial, home and civic groups, and the "Watt-Wise Living" Program, primarily aimed at new single-family construction. The concept behind these efforts is to create a high degree of public awareness of the "Wise Energy Management" Program by making information readily available.

FP&L established their Marketing and Conservation Department to develop and coordinate the activities of the "Wise Energy Management" program. Its duties are devoted exclusively to the energy conservation effort in each of the six operating divisions. Department members give demonstrations and counseling to schools, home and civic groups on the efficient use of home appliances, and advise commercial businesses on building management to encourage wise energy usage. Many brochures have been prepared and distributed by FP&L dealing with hints on energy conservation, with particular note given to the use of insulation as a means to increase energy efficiency. An innovative poster was instituted to better inform the general public about the uses and benefits of solar energy. The Department also has the responsibility of developing and distributing information on wise energy management within the various divisions and departments of FP&L.

FP&L has incorporated many new programs into their conservation efforts, dealing primarily with current and future energy use at the residential level. The "Watt-Wise Living" program was developed to encourage builders and consumers alike to select a new home which was designed and constructed with energy efficiency in mind. Clear cut guidelines are provided for selecting energy saving options such as increased insulation, appliances, heating and cooling equipment, windows and hot water systems. By assigning each option a relative point value, the builder, the buyer and FP&L will know how energy efficient that home actually is. FP&L also conducts energy audits to determine and recommend conservation methods to existing home owners.

FP&L's future energy conservation plans include: 1) cooperation in the construction of a 495 MW solid waste fueled electric power facility; 2) expansion of the "Watt-Wise Living" program to include townhouses, attached dwellings and eventually multi-family residences; 3) Residential Energy Audit/Retrofit Program; and 4) Expansion of Audit/Retrofit Program to include commercial, industrial and non-residential structures.

1.1.1.2.4 Simulation

To achieve the flexibility to meet uncertain future events, Florida Power & Light Company has moved away from discrete forecasts. Plans made on the basis of a single set of forecast numbers do not have the flexibility necessary for unforeseen economic and technological growth.

The simulation approach is designed to allow: 1) individual and/or simultaneous evaluation of a large number of alternatives; and 2) the internal development of probabilities for these alternatives. Using this approach requires that a probability distribution be assigned to each independent variable. For example, a weather variable has been shown to be uniformly distributed through a range of values. The price variables might be described quite differently. Suppose there are only two logical values for the price in the upcoming year, corresponding to "rate relief" and "no rate relief". A probability would then be assigned to each value.

Using the forecasting model and the appropriate distributions for the independent variables, the dependent variables are arrived at by probabilistic simulation using a computer program based on Monte Carlo techniques.

1.1.1.2.5 Principal Assumptions

In this section, the assumptions used in the preparation of the peak load and net energy forecasts are developed.

a) Population and Customer Growth

Population in the Florida Power & Light Company service area will continue to grow throughout the period 1979-1988, but at a rate lower than in the past. According to a recent US Government forecast[1], Florida will be one of the fastest growing states in the US through the year 2000.

The growth is concentrated in the 25 and older age group. There are three forecasted factors which help to explain this. First, Florida will continue to remain an attractive place to retire. Secondly, the large segment of the population that resulted from post-war baby boom will be moving from the prime household forming years of 18-24 and into the more established age group of 25-34. This group, which was partly responsible for the rapid customer growth experienced over the past decade, will give way to a much smaller number, the result being a slower rate of customer growth. Finally, the fertility rate has dropped to 1.8 children per woman age 18-45. Although this will have little impact on FP&L until 1985, by 1990 the effects of today's depressed birth rate will begin to appear.

Sources for the population forecast have been drawn from federal, state, and local government; universities; and consulting services such as the National Planning Association. The University of Florida's population forecast is presently being used and is presented as a range. The population growth projections for the next decade are average annual rates of 1.5 to 3.3 percent. This compares with the 3.7 percent average annual growth experienced from 1969 through 1978.

Historically, the number of Florida Power & Light Company customers has grown at a rate faster than the population. From 1969 to 1978, customers increased at an average annual rate of 5.9 percent. Residential customers, which currently form about 90 percent of total customers, have accounted for most of this increase. In 1950, there were 4.2 people for every residential customer. By 1978, this ratio had dropped to 2.6, and is projected to be 2.4 by 1988. Factors which contribute to this reduced ratio are the continued increase in second homes, the tendency of more people to remain single longer, and the lower fertility rate. All of these factors contribute to a smaller average family size and will result in a household formation rate higher than the population growth rate.

b) Price

The price forecast is prepared by the Finance Department and is the result of the load forecast and the planned generation additions. The revenue required to support the generation plan is calculated and then coverted to the real price per kilowatt-hour.

Historically, the average real price per kilowatt-hour for Florida Power & Light Company's customers fell at an average annual rate of 4.6 percent from 1965 through 1972. However, from 1972 through 1978, the real price increased at an average annual rate of 4.7 percent. This variation was caused by several unusual and coincident circumstances which caused the cost of operating an electric utility to increase at a rate faster than inflation. The reoccurrence of the previous circumstances is not expected to be of the magnitude which would be necessary to cause an increase in price above inflation over the next decade. Therefore, the projected average annual rate for the real average price per kilowatt-hour for all of FP&L's customers is zero.

c) Economic Growth

As mentioned previously, real per capita income and Florida employment were used in the appropriate models in order to adequately represent the impact on both the individual and the community. Through 1988, income is forecast to grow at an average annual rate in the range of 2.8 to 3.6 percent. The corresponding rates for employment are 2.5 to 3.9 percent.

Several basic areas of economic strength continue to characterize the State of Florida. One of these is the tourist sector which experienced 34 million visitors in 1978. This is an increase over 1970 of 10.8 million. This increase can be largely attributed to new trends in the tourist industry. First, there has been an increase in the number of second homes. These people are not counted in Florida's census when occupying their homes for only parts of the year; second, there is an increasing number of tourists who arrive by automobile which typically visit central Florida; third, the increase in the number of cruise passengers passing through Florida ports; and last, the increase in the number of Latin American tourists, particularly noticeable in Miami.

A second significant growth factor is the role of manufacturing in the State. While construction has been the dominant source of employment opportunities in Florida, it will be of lessening relative importance as growth in manufacturing industries increases. Another new development has been the increased movement in Florida of subsidiaries of some of America's largest corporations, specifically set up to conduct business outside the United States. These subsidiary corporations, frequently characterized by the word "international" with the name of the parent company, are largely centered in the Miami area.

d) Other Assumptions

Appliance Efficiency

The model incorporates approximately 50 percent of the efficiency improvement targets set by the DOE for all appliances except air conditioners, where 100 percent was assumed.

Watt-Wise Market Penetration

The degree to which new single family homes will qualify for Watt-Wise is projected to increase from 1,972 homes in 1978 to 134,435 in 1988, a compound average annual growth of 53 percent.

Solar Water Heating

The saturation of solar water heaters is projected to increase at a ten year average annual growth rate of 30 percent. Solar water heaters will impact peak demand by needing no electric back-up at the time of the summer peak but will need 90 percent back-up at the time of the winter peak.

Air Conditioning Saturation

The air conditioning saturation in the FP&L service area is currently estimated at 84 percent. The saturation is expected to continue to slowly increase to the low 90's by 1988.

Heating Saturation

The number of customers using electricity to heat their homes and apartments is expected to grow as the price and availability of gas continues to depress gas usage and central units boosted by heat strips become "standard" appliances for new homes. The saturation of electric heat in 1988 is expected to be 73 percent.

Weather

The cooling degree days, heating degree days, summer peak day average temperature, and winter peak day average temperature are forecasted probabilistically on the basis of 30 years of data to include not only average but some of the variability of extremes.

1.1.1.2.6 Load Management

Accurate forecasts of future electrical demand require careful consideration of the potential impact of conservation. The price of electricity is an important "conservation" variable since it affects the customer's decision to consume or conserve electricity. Economic activity also affects the consumption of electricity. Improved appliance efficiency, solar water heating, and the energy efficient homes would also tend to reduce the rate of growth of electricity use. These variables are considered in the load forecast and were previously discussed.

In addition, Florida Power & Light Company is currently looking into alternative load management that will help reduce the peak load while improving load factor. By slowing the peak load growth, additional high cost capacity can be deferred. By improving load factor, facilities can be utilized to the maximum extent possible. If this is done, rates can be kept as low as possible while still insuring an adequate and reliable supply of electric power, both of which are vital for maintaining a healthy economy.

One type of load management technique involves direct control of load and is usually aimed at controlling specific appliance loads such as water heaters, air conditioning, and electric heating. Another technique involves application of time-of-use rates. With time-of-use rates, the price of electricity is varied according to the time-of-day and season of the year. In theory, the application of time-of-use rate should cause some consumption to shift from peak to off-peak hours.

In order to determine the feasibility of both techniques, FP&L has initiated several test programs involving residential customers. By 1980, FP&L plans to have 1,125 customers involved in load control and time-of-use rate tests. These tests are scheduled to be completed by 1982 and the results will be used to determine the feasibility of applying these techniques on a large scale basis.

In Summary:

The use of a range of forecast values representing upper and lower bounds for each of the explanatory variables resulted in the development of banded peak load and energy forecasts. The forecast of summer peak load projects an annual growth rate in the 1978-1988 period ranging from 3.4 to 5.7 percent. The winter peak load ranges from 3.2 to 4.9 percent. The energy forecast has a low annual rate of 3.0 percent and a high annual rate of 4.3 percent. Figures 1.1-2, 1.1-3 and 1.1-4 are graphical representations of these bands.

The forecasts provided in Tables 1.1-2 and 1.1-3 represent only the number for which there is equal probability for the peak load and net energy forecasts to be above or below this number and is to be used only where a singular forecast is required. Historical peak demands represent actual loads served.

1.1.1.3 Power Exchanges

Section 1.1.1.3 is based on the Ten Year Power Plant Site Plan 1979-1988 and information current to May 1979.

Florida Power & Light Company is not currently involved in any firm power purchases or sales and none are planned for the next ten years, through 1989. However, FP&L is currently negotiating for the possible purchase of unit power from Tampa Electric Company's Big Bend Unit 4. FP&L would share in the unit's output as follows:

Year	Capacity (%)	Capacity (MW)
1985	70	292
1986	50	208
1987	25	104

1.1.2 SYSTEM CAPABILITY

All parts of Section 1.1.2 are based on the Ten Year Power Plant Site Plan 1979-1988 and information current to May 1979.

1.1.2.1 Tabulated System Capacity

Generation planning is a continuous process. There is always an existing plan which is updated and revised as new information is gained. Table 1.1-4 shows actual and planned generating capability by category for the years 1973-1989. The capabilities listed are "net summer continuous" ratings expected at the time of summer peak. This is also shown graphically on Figure 1.1-5. Also, Table 1.1-5 lists Florida Power & Light Company's existing generating facilities and Table 1.1-6 shows historical capacity factors and type of use for those facilities.

1.1.2.2 Tabulated System Capacity - SERC

Florida Power & Light Company is a member of the Florida Subregion of the Southeastern Electric Reliability Council (SERC). FP&L's Generation Plan, as well as the plans of the other member utilities impact the reserves and reliability of the Florida Subregion and thus SERC. Each member of the Florida Subregion provides annually detailed information about its existing system and planned changes. Tables 1.1-7 and 1.1-8 present the existing generating capability and planned and prospective additions, retirements, and changes of generation facilities of the Florida Subregion members for the years 1979-1988.

1.1.3 RESERVE MARGINS

Florida Power & Light Company is required by law to "meet all reasonable demands for service and provide a reasonable reserve for emergencies". Section 25-6.35 of the Florida Administrative Code, "Adequacy of Supply", defines this responsibility. Developing this . . . "reasonable reserve for emergencies" . . . becomes a multifaceted process where FP&L must look at important factors such as planned and forced maintenance outages, load forecast uncertainty, operating reserve requirements, and system reliability. These system related variables along with economic, financial, and regulatory inputs must all be considered when formulating a generation expansion plan. The following discussions will outline how each of the system related variables, as mentioned above, are considered for the final composition of an expansion scenario.

Forced and planned maintenance outages are major considerations when planning for reserve margins. FP&L must design for sufficient generation reserves to allow for planned maintenance outages without jeopardizing the system's ability to meet the demand while still maintaining sufficient available capacity to allow for emergencies. Table 1.1-9 shows the ten year forecast of capacity, most probable demand, reserves, and scheduled maintenance at the time of the summer peak. Also shown is the effect of the maintenance outages on available reserves.

As discussed in Section 1.1.1.2, FP&L develops a banded forecast. The reserve margins shown in Tables 1.1-9, 1.1-10 and 1.3-1 are computed on the most probable forecast for which there is equal probability for the peak load to be above or below that value. However, should the actual peak load be higher than expected, due to short term effects such as extreme weather conditions, FP&L must still be able to provide generation plus adequate reserves for emergencies. Due to the long construction lead times for generation facilities, the sensitivity of projected generation reserves increases due to uncertainties inherent in the load forecast. FP&L must therefore consider this sensitivity when developing a generation expansion plan to prevent the occurrence of insufficient reserves needed to compensate for unexpected high peak demand.

Another major consideration in the development of a generation plan is FP&L's responsibilities to the Florida Subregion of the Southeastern Electric Reliability Council (SERC). FP&L and other members voluntarily share operating reserve requirements for spinning reserve and supplemental reserve. FP&L's reserve requirements represent its ability to react to system emergencies and forced maintenance outages. They must be maintained if FP&L is to provide adequate and reliable generation to its customers and to SERC.

Spinning reserve is the reserve generating capability connected to the bus, ready to pick up load immediately, and capable of becoming fully applicable when frequency declines to 59.5 Hz. Supplemental reserve is any generating capability and/or load relief measure which can be made fully applicable within 30 minutes. The total Subregion spinning reserve requirement is equal to the peak capability of the largest unit on line. The spinning reserve requirement for each member utility is allocated in proportion to the participant's maximum demand in the preceding year and the peak capability of its largest unit. The total Subregion supplemental reserve requirement is equal to the second largest unit on line and each member utility's requirement is allocated in the same manner.

The installed generation reserve margin must be consistent with good operating practices and acceptable reliability criteria. To establish an acceptable criterion, FP&L has examined historic reserve levels and the degree of generation reliability provided by these reserves.

This relationship is dependent upon system characteristics such as unit additions and retirements, unit sizes, unit forced and planned outages and timing of unit additions. Due to difficulty in planning for such variables, predicting future reserve/reliability relationships is done by simulation models. This modeling is done on a peninsular Florida basis since each of the inter-connected utilities share operating reserve requirements and thus share the responsibility for generation reliability. FP&L annually participates with other members of the Florida Subregion to analyze peninsular Florida generation reliability and produces a report, "The Peninsular Florida Generation Reliability Assessment Study", that outlines its findings (see Section 1.1.4). This study takes a large integrated look at peninsular Florida's generation reliability and assesses the reliability when outage rates and timing of unit additions become sensitivity variables.

The index of reliability used is loss-of-load-probability (LOLP) which measures the frequency in number of days per year that the available generation will be insufficient to meet the firm peak load.

FP&L, as an individual utility, examines a combination of reserve margins and reliability levels that have proven effective historically and relates them to the reserve/reliability results of modeling for future plans. By comparing the historical and future reserve/reliability relationships and examining other factors such as economics, financing, and environmental obstacles, FP&L develops the optimal generation plan.

Table 1.1-10 presents historical and forecasted values of net capability, peak demand, and the resulting reserve margins, and shows these values for both cases "with St Lucie Unit 2" and "without St Lucie Unit 2". Figure 1.1-6 is a graphic illustration of the reserve margins from Table 1.1-10. Also, Figure 1.1-7 graphically presents historical and forecasted values of net capability and peak demand for both cases.

1.1.4 EXTERNAL SUPPORTING STUDIES

Florida Power & Light Company is a member of the Florida Subregion of the Southeastern Electric Reliability Council (SERC). In response to the Federal Energy Regulatory Commission Order 383-44, SERC annually submits a "Coordinated Bulk Power Supply Program" report. This report presents peak load, generation capability, and transmission capability data for all utilities responsible to SERC. The data is reported by subregion, of which there are four, and consists of all existing facilities plus planned and prospective future additions and retirements.

FP&L actively participates in Florida Subregion activities, one of which is the Peninsular Florida Generation Reliability Assessment

Study*. This study takes a large integrated look at Peninsular Florida's generation reliability and assesses the reliability when outage rates and timing of unit additions become sensitivity variables. The results of the study show that under the proposed generation plans of the participating utilities, the reliability levels (LOLP) fluctuate within a reasonable range of the industry standard of 0.1 days/year for the 1979-1988 period. Reserves in this time frame were shown to range from 21 percent to 26 percent. With unit in-service dates as a sensitivity variable (one year delay in all base load units in the 1983-1988 period), a significant shift in Florida's reliability was shown. The LOLP index increased by a factor of two to seven, depending upon unit characteristics and number of units which were delayed. A significant impact in system LOLP was also realized by a ten percent (overall) decrease in unit availability.

*The Peninsular Florida Generation Reliability Assessment Study is based on information more recent than that reflected in this St Lucie Unit 2 Environmental Report and therefore some results might be different.

SECTION 1.1: REFERENCES

1. Bureau of the Census, 1978. Population Estimates and Projections. Series P-25, No. 735. U S Department of Commerce.

TABLE 1.1-1 Sheet 1 of 2

MEMBERS OF THE SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL (SERC)

Subregion	Utility
Southern Companies	Alabama Electric Cooperative, Inc.
Southern Companies	Alabama Power Company
Virginia - Carolinas	Carolina Power and Light Company
Southern Companies	Crisp County Power Commission
Virginia Carolinas	Duke Power Company
Florida	Florida Power Corporation
Florida	Florida Power and Light Company
Florida	Fort Pierce Utilities Authority
Florida	Gainesville/Alachua Co Reg Utility Board
Southern Companies	Georgia Power Company
Southern Companies	Gulf Power Company
Florida	Jacksonville Electric Authority
Florida	City of Lakeland - Department of Electric and Water Utilities
Southern Companies	Mississippi Power Company
TVA	Nantabala Power and Light Company
Florida	Orlando Utilities Commission
Southern Companies	Savannah Electric and Power Company
Virginia - Carolinas	Southeastern Power Administration
Virginia - Carolinas	South Carolina Electric and Gas Company
Virginia - Carolinas	South Carolina Public Service Authority
Southern Companies	South Mississippi Electric Power Association

TABLE 1.1-1 Sheet 2 of 2

Subregion	Utility
Florida	City of Tallahasse
Florida	Tampa Electric Company
TVA	Tapoco, Inc
TVA	Tennessee Valley Authority
Florida	Vero Beach Municipal Power System
Virginia - Carolina	Virginia Electric and Power Company
TVA	Yadkin, Inc

TABLE 1.1-2

HISTORY AND FORECAST OF ENERGY CONSUMPTION

Sheet 1 of 2

	Rural & Residential			Commercial		Industrial	
Year	GWH	Average No. of Customers	Average KWH Consumption Per Customer	GWH	Average No. of Customers	GWH	Average No. of Customers
1969*	10,278	1,045,744	9,828	5,689	115,712	1,814	4,924
1970	11,814	1,115,070	10,595	6,476	121,353	2,044	5,055
1971	13,080	1,194,015	10,955	7,395	129,371	2,236	5,116
1972	14,653	1,289,027	11,367	8,389	139,743	2,468	5,208
1973*	16,823	1,397,228	12,040	10,180	158,977	2,755	5,275
1974*	16,802	1,498,262	11,214	11,041	168,991	2,646	7,147
1975	17,313	1,555,834	11,128	11,851	171,575	2,534	8,977
1976	17,625	1,607,015	10,968	12,117	177,046	2,596	9,994
1977	19,074	1,677,532	11,370	12,885	184,676	2,756	11,796
1978	20,736	1,758,838	11,790	13,748	192,850	2,993	13,799
1979	21,085	1,842,000	11,447	14,117	200,000	3,468	15,000
1980	22,257	1,915,000	11,622	15,187	213,000	3,207	15,250
1981	23,164	1,982,000	11,687	16,000	220,000	3,265	15,500
1982	23,941	2,054,000	11,656	16,685	229,000	3,322	15,750
1983	24,508	2,124,000	11,539	17,736	238,000	3,455	16,000
1984	25,014	2,193,000	11,406	18,595	247,000	3,566	17,000
1985	25,653	2,261,000	11,346	19,384	254,000	3,687	17,500
1986	26,293	2,324,000	11,314	20,155	260,000	3,803	18,000
1987	26,736	2,391,000	11,182	20,739	268,000	3,891	18,500
1988	27,363	2,466,000	11,096	21,627	277,000	4,073	19,000

* Reclassification of Accounts

TABLE 1.1-2

HISTORY AND FORECAST OF ENERGY CONSUMPTION

Year	Street & Highway Lighting GWH	Other Sales to Ultimate Consumers GWH	Total Sales to Ultimate Consumers GWH	Sales For Resale GWH	Utility Uses Losses GWH	Total Net Energy Consumption GWH
1969*	175	1,840	19,796	649	1,773	22,218
1970	185	1,810	22,329	786	1,998	25,113
1971	204	1,927	24,842	947	2,095	27,884
1972	216	2,080	27,806	1,122	2,570	31,498
1973*	240	1,119	31,117	1,350	2,718	35,185
1974*	257	490	31,236	1,475	2,754	35,465
1975	285	524	32,507	1,604	3,040	37,151
1976	308	482	33,128	1,801	3,096	38,025
1977	329	474	35,518	2,012	3,182	40,712
1978	343	478	38,298	2,304	3,104	43,706
1979	372	495	39,537	2,463	3,495	45,495
1980	401	487	41,539	2,361	3,820	47,720
1981	434	485	43,348	2,521	3,991	49,860
1982	469	483	44,900	2,560	4,125	51,585
1983	506	481	46,686	2,665	4,289	53,640
1984	546	480	48,201	2,744	4,430	55,375
1985	590	480	49,794	2,881	4,580	57,255
1986	638	481	51,370	2,956	4,724	59,050
1987	689	483	52,588	2,997	4,835	60,420
1988	744	485	54,292	3,073	4,990	62,355

* Reclassification of Accounts

TABLE 1.1-3

HISTORY AND FORECAST OF SEASONAL PEAK DEMAND AND ANNUAL ENERGY REQUIREMENTS

	Summer Peak Demand			Load		Winter Peak Demand	
	Net MW		Net Energy*	Factor		Net MW	
Year	Interruptible**	Total*	For Load - GWH	%	Year	Interruptible**	Total*
1969	0	4,329	22,218	59	1969-70	0	4,716
1970	30	5,001	25,113	57	1970-71	0	5,059
1971	118	5,378	27,884	59	1971-72	0	4,676
1972	0	6,011	31,498	60	1972-73	0	5,853
1973	0	6,894	35,185	58	1973-74	0	6,258
1974	0	7,235	35,465	56	1974-75	0	5,807
1975	0	7,076	37,151	60	1975-76	0	7,287
1976	0	7,598	38,025	57	1976-77	177	8,606
1977	0	7,841	40,712	59	1977-78	0	8,617
1978	0	8,345	43,706	60	1978-79	0	8,791
1979	167	8,975	45,495	58	1979-80	178	9,540
1980	178	9,540	47,720	57	1980-81	185	9,930
1981	185	9,930	49,860	57	1981-82	192	10,320
1982	192	10,320	51,585	57	1982-83	199	10,715
1983	199	10,715	53,640	57	1983-84	206	11,105
1984	206	11,105	55,375	57	1984-85	213	11,495
1985	213	11,495	57,255	57	1985-86	220	11,885
1986	220	11,885	59,050	57	1986-87	227	12,275
1987	227	12,275	60,420	56	1987-88	234	12,670
1988	234	12,670	62,355	56	1988-89	241	13,060

* This represents the number for which there is equal probability for the peak load and net energy forecasts to be above or below this number and is to be used only where a singular forecast is required. Historical peak demands represent actual loads served.

** Historical values represent actual load curtailed.

TABLE 1.1-4

FLORIDA POWER & LIGHT COMPANY
NET SUMMER CAPABILITY AND UNIT ADDITIONS

Year	Unit Additions	Capability (MW)	Fuel	System Capability (MW) Nuclear Steam	Oil Steam	Fossil Gas Turbine	Coal Steam	Total Capacity
1973				693	5,225	1,359	0	7,277
1974				1,332	5,652	2,031	0	9,015
1975				1,332	5,652	2,031	0	9,015
1976				1,332	5,283	2,031	0	8,646
1977				2,109	5,552	1,977	0	9,638
1978				2,109	6,316	2,423	0	10,848
1979	Riviera #1*** Riviera #2	40 69	Oil Oil	2,109	6,425	2,423	0	10,957
1980	Martin #1	775	Oil	2,109	7,200	2,423	0	11,732
1981	Martin #2 Dade	775 40	Oil Solid Waste	2,109	8,015	2,423	0	12,547
1982	-	-	-	2,109	8.015	2,423	0	12,547
1983	St. Lucie #2	747**	Nuclear	2,856	8,015	2,423	0	13,294
1984	-	-	-	2,856	8,015	2,423	0	13,294
1985	Martin Coal #3	700	Coal	2,856	8,015	2,423	700	13,994
1986	-	-	-	2,856	8,015	2,423	700	13,994
1987	JEA/FPL #1 Martin Coal #4	300 700	Coal Coal	2,856	8,015	2,423	1,700	14,994
1988	-	-	-	2,856	8,015	2,423	1,700	14,994
1989	Unknown JEA/FPL #2	700 300	Coal Coal	2,856	8,015	2,423	2,700	15,994

* Putnam #1 and #2 are Combined Cycle units and their capabilities are included in the figures for Fossil Gas Turbines.

** Actual rating of this unit is 802 MW, however, 55 MW have been offered for sale to other utilities.

*** Riviera Units 1 & 2 were reactivated from Extended Cold Standby December 29, 1978.

TABLE 1.1-5

FLORIDA POWER & LIGHT COMPANY
EXISTING GENERATING FACILITIES

Sheet 1 of 4

Plant Name	Unit No.	Location	Type	Fuel Pri	Fuel Alt	Com'l In-Service Mo/Yr	Exptd Retrmnt Mo/Yr	Gen Max Nameplate kW	Net Capability* Summer MW	Net Capability* Winter MW
Turkey Point		Dade County 27/57S/40E						2,337,790	2079.5	2145.5
	1		F	HO	NG	4/67	Unknown	402,050	367.0	370.0
	2		F	HO	NG	4/68	Unknown	402,050	367.0	370.0
	3		N	N	no	12/72	Unknown	759,970	666.0	696.0
	4		N	N	no	9/73	Unknown	759,970	666.0	696.0
	1-5		D	LO	no	4/68	Unknown	13,750	13.5	13.5
Lauderdale		Broward Co. 30/50S/42E						1,133,972	1126.0	1250.0
	4		F	HO	NG	9/57	Unknown	156,250	137.0	139.0
	5		F	HO	NG	4/58	Unknown	156,250	137.0	139.0
	1-12		CT	LO	NG	8/70	Unknown	410,736	426.0	486.0
	13-24		CT	LO	NG	8/72	Unknown	410,736	426.0	486.0
Port Everglades		City of Hollywood 23/50S/42E						1,679,086	1581.5	1651.5
	1		F	HO	NG	6/60	Unknown	225,250	204.0	206.0
	2		F	HO	NG	4/61	Unknown	225,250	204.0	206.0
	3		F	HO	NG	7/64	Unknown	402,050	367.0	370.0
	4		F	HO	NG	4/65	Unknown	402,050	367.0	370.0
	1-12		CT	LO	NG	8/71	Unknown	410,736	426.0	486.0
	1-5		D	LO	no	4/68	Unknown	13,750	13.5	13.5
Rivera		City of Rivera Beach 33/42S/43E						739,590	653.0	662.0
	1		F	HO	NG	11/46	Unknown	43,750	40.0	41.0
	2		F	HO	NG	11/53	Unknown	75,000	69.0	71.0
	3		F	HO	NG	6/62	Unknown	310,420	272.0	275.0
	4		F	HO	NG	3/63	Unknown	310,420	272.0	275.0

* Capabilities are specified in accordance with "SERC Guideline Number 2 for the Uniform Generator Ratings for Reporting."

TABLE 1.1-5

FLORIDA POWER & LIGHT COMPANY
EXISTING GENERATING FACILITIES

Plant Name	Unit No.	Location	Type	Fuel Pri	Fuel Alt	Com'l In-Service Mo/Yr	Exptd Retrmnt Mo/Yr	Gen Max Nameplate kW	Net Capability* Summer MW	Net Capability* Winter MW
St. Lucie		St. Lucie Co. 16/36S/41E						850,000	777.0	795.0
	1		N	N	no	12/76	Unknown	850,000	777.0	795.0
Cape Canaveral		Brevard Co. 19/24S/36E						804,100	729.0	736.0
	1		F	HO	NG	4/65	Unknown	402,050	367.0	370.0
	2		F	HO	NG	5/69	Unknown	402,050	362.0	366.0
Sanford		Volusia Co. 16/19S/30E						1,028,450	861.0	871.0
	3		F	HO	NG	5/59	Unknown	156,250	137.0	139.0
	4		F	HO	no	7/72	Unknown	436,100	362.0	366.0
	5		F	HO	no	6/73	Unknown	436,100	362.0	366.0
Putnam		Putnam Co. 16/10S/27E						580,000	446.0	518.0
	1		CC	HO	LO	4/78	Unknown	290,000	223.0	259.0
	2		CC	HO	LO	8/77	Unknown	290,000	223.0	259.0
Ft. Myers		Lee Co. 35/43S/25E						1,302,300	1176.0	1337.0
	1		F	HO	no	12/58	Unknown	156,250	137.0	139.0
	2		F	HO	no	7/69	Unknown	402,050	367.0	370.0
	1-12		CT	LO	no	6/74	Unknown	744,000	672.0	828.0
Manatee		Manatee Co. 18/33S/20E						1,726,600	1528.0	1550.0
	1		F	HO	no	10/76	Unknown	863,300	764.0	775.0
	2		F	HO	no	12/77	Unknown	863,300	764.0	775.0
						Total System as of December 31, 1978 =			10957.0	11516.0

* Capabilities are specified in accordance with "SERC Guideline Number 2 for Uniform Generator Ratings for Reporting."

TABLE 1.1-5

FLORIDA POWER & LIGHT COMPANY
EXISTING GENERATING FACILITIES

Sheet 3 of 4

Plant Name	Unit No.	Location	Type	Fuel Pri	Fuel Alt	Com'l In-Service Mo/Yr	Exptd Retrmnt Mo/Yr	Gen Max Nameplate kW	Net Capability* Summer MW	Net Capability* Winter MW
Cutler**		Dade County 24/55S/40E						305,500	264.0	272.0
	4		F	HO	NG	11/52	Unknown	69,000	67.0	70.0
	5		F	HO	NG	11/54	Unknown	75,000	67.0	70.0
	6		F	HO	NG	9/55	Unknown	161,500	130.0	132.0
Palatka**		Putnam Co. 16/10S/27E						109,500	107.0	111.0
	1		F	HO	NG	8/51	Unknown	34,500	32.0	34.0
	2		F	HO	NG	8/56	Unknown	75,000	75.0	77.0

* Capabilities are specified in accordance with "SERC Guidelines Number 2 for Uniform Generator Ratings for Reporting."

** The Company currently has five fossil fuel units on extended cold standby (ECS) status (reactivation of these units would require 8 months to 14 months).

TABLE 1.1-5

FLORIDA POWER & LIGHT COMPANY
EXISTING GENERATING FACILITIES

UNIT TYPE	FUEL
F - Fossil	C - Coal
N - Nuclear	HO - Heavy Oil
CT - Combustion Turbine	LO - Light Oil
D - Diesel	N - Nuclear
CC - Combined Cycle	SW - Solid Waste
	NG - Natural Gas

TABLE 1.1-6

FLORIDA POWER & LIGHT COMPANY
CAPACITY FACTORS AND TYPE OF USE

Sheet 1 of 2

Plant	Unit Number	Annual Capacity Factors* 1973	1974	1975	1976	1977	1978	Type of Use
Turkey Point	1	59.8	69.8	61.3	63.4	50.1	60.0	Base/Inter.
	2	69.7	67.4	65.8	64.6	59.3	59.4	Base/Inter.
	3	49.5	54.0	65.8	65.4	67.2	66.9	Base
	4	20.8	64.3	59.9	56.4	55.1	57.4	Base
Cutler (Ret.12-15-75)	3	26.3	13.1	13.9	--	--	--	Intermediate
	4**	63.9	32.6	40.7	25.2	ECS	ECS	Intermediate
	5**	52.1	32.6	26.6	20.4	ECS	ECS	Intermediate
	6**	50.1	41.2	5.8	30.4	ECS	ECS	Intermediate
Miami (Ret.12-15-75)	8	22.5	0.2	--	--	--	--	
Lauderdale	4	61.4	49.0	45.4	39.1	30.2	33.9	Intermediate
	5	61.2	48.2	45.1	52.9	37.4	48.8	Intermediate
Port Everglades	1	66.5	57.1	49.6	57.7	44.0	57.4	Intermediate
	2	67.1	54.1	51.3	59.2	53.8	56.2	Intermediate
	3	65.3	66.8	64.0	58.0	61.3	47.2	Base/Inter.
	4	67.7	55.3	66.0	69.6	54.8	61.2	Base/Inter.
Riviera	1**	31.6	21.3	20.6	15.9	ECS	ECS	Intermediate
	2**	28.3	24.0	29.4	22.7	ECS	ECS	Intermediate
	3	66.0	46.8	65.9	57.1	39.2	56.3	Intermediate
	4	66.5	51.1	50.6	58.6	51.3	43.2	Intermediate
St Lucie	1	--	--	--	6.9	71.4	67.2	Base
Cape Canaveral	1	66.1	63.4	70.2	66.2	62.6	56.6	Base/Inter.
	2	64.7	52.2	64.9	67.4	56.4	65.8	Base/Inter.
Sanford	3	52.9	52.7	36.2	35.3	23.9	39.7	Intermediate
	4	29.1	30.4	43.5	48.4	36.4	31.6	Base/Inter.
	5	26.6	30.6	37.0	47.4	38.3	48.5	Base/Inter.
Palatka	1**	30.7	19.6	17.9	14.4	ECS	ECS	Intermediate
	2**	70.7	66.7	56.1	21.2	ECS	ECS	Intermediate
Manatee	1	--	--	--	9.4	37.0	40.0	Base/Inter.
	2	--	--	--	--	3.5	32.0	Base/Inter.

* Capacity Factors were computed using nameplate ratings.

** ECS; Extended Cold Standby

TABLE 1.1-6

FLORIDA POWER & LIGHT COMPANY
CAPACITY FACTORS AND TYPE OF USE

Plant	Unit Number	Annual Capacity Factors* 1973	1974	1975	1976	1977	1978	Type of Use
Ft Myers	1	44.3	35.9	48.2	46.6	38.2	36.8	Intermediate
	2	63.2	53.3	56.1	48.7	68.2	54.1	Base/Inter.
Lauderdale Gas Turbines		3.9	3.0	2.6	2.3	3.6	5.1	Peak
Port Everglades Gas Turbines		8.3	4.0	6.7	2.4	4.0	5.4	Peak
Ft Myers Gas Turbines		--	7.4	11.0	9.2	5.1	2.3	Peak
Putnam Combined Cycles		--	--	--	--	7.2	11.2	Intermediate

TABLE 1.1-7

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL - FLORIDA SUBREGION

EXISTING GENERATING CAPABILITY
(as of January 1, 1979)

System	Station Name	Unit No.	Unit Type	Primary Fuel: Net Capability-MW Summer	Primary Fuel: Net Capability-MW Winter	Primary Fuel: Fuel Type	Alternate Fuel: Fuel Type
Florida Power and Light							
FLPL	Cape Canaveral	1	ST	367	370	F06	NG
FLPL	Cape Canaveral	2	ST	362	366	F06	NG
FLPL	Cutler 1/	4	ST	67	70	F06	NG
FLPL	Cutler 1/	5	ST	67	70	F06	NG
FLPL	Cutler 1/	6	ST	130	132	F06	NG
FLPL	Ft Myers	1	ST	137	139	F06	-
FLPL	Ft Myers	2	ST	367	370	F06	-
FLPL	Ft Myers	1-12	GT	672	828	F02	-
FLPL	Ft Lauderdale	4	ST	137	139	F06	NG
FLPL	Ft Lauderdale	5	ST	137	139	F06	NG
FLPL	Ft Lauderdale	1-12	GT	426	486	F02	NG
FLPL	Ft Lauderdale	13-24	GT	426	486	F02	NG
FLPL	Manatee	1	ST	764	775	F06	-
FLPL	Manatee	2	ST	764	775	F06	-
FLPL	Palatka 1/	1	ST	32	34	F06	NG
FLPL	Palatka 1/	2	ST	75	77	F06	NG
FLPL	Port Everglades	1	ST	204	206	F06	NG
FLPL	Port Everglades	2	ST	204	206	F06	NG
FLPL	Port Everglades	3	ST	367	370	F06	NG
FLPL	Port Everglades	4	ST	367	370	F06	NG
FLPL	Port Everglades	1-12	GT	426	486	F02	NG
FLPL	Port Everglades	1 -5	IC	14	14	F02	-
FLPL	Putnam	1	CT/CA	118/97	138/113	F06	F02
FLPL	Putnam	2	CT/CA	118/97	138/113	F06	F02
FLPL	Riviera	1	ST	40	41	F06	NG
FLPL	Riviera	2	ST	69	69	F06	NG
FLPL	Riviera	3	ST	272	275	F06	NG
FLPL	Riviera	4	ST	272	275	F06	NG
FLPL	Sanford	3	ST	137	139	F06	NG
FLPL	Sanford	4	ST	362	366	F06	-
FLPL	Sanford	5	ST	362	366	F06	-
FLPL	St Lucie	1	NP	777	795	UR	-
FLPL	Turkey Point	1	ST	367	370	F06	NG
FLPL	Turkey Point	2	ST	367	370	F06	NG
FLPL	Turkey Point	3	NP	666	696	UR	-
FLPL	Turkey Point	4	NP	666	696	UR	-
FLPL	Turkey Point	1-5	IC	13	13	F02	-
			TOTAL	10941	11500		

TABLE 1.1-7

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL - FLORIDA SUBREGION

EXISTING GENERATING CAPABILITY
(as of January 1, 1979)

System	Station Name	Unit No.	Unit Type	Primary Fuel Net Capability-MW Summer	Primary Fuel Net Capability-MW Winter	Primary Fuel Fuel Type	Alternate Fuel Fuel Type
Florida Power Corporation							
FLPC	Anclote	1	ST	466	506	F06	-
FLPC	Anclote 3/	2	ST	466	506	F06	-
FLPC	Avon Park	2	ST	42	44	F06	NG
FLPC	Avon Park	1	GT	26	35	F02	NG
FLPC	Avon Park	2	GT	26	35	F02	NG
FLPC	Bartow	1	ST	114	114	F06	-
FLPC	Bartow	2	ST	116	116	F06	NG
FLPC	Bartow	3	ST	210	215	F06	NG
FLPC	Bartow	1- 4	GT	168	204	F02	-
FLPC	Bayboro	1- 4	GT	160	208	F02	-
FLPC	Crystal River 4/	1	ST	383	383	F06	-
FLPC	Crystal RIver	2	ST	383	413	BIT	-
FLPC	Crystal River	3	NP	717	731	UR	-
FLPC	DeBary	1	GT	42	52	F06	F02
FLPC	DeBary	2	GT	42	52	F06	F02
FLPC	DeBary	3	GT	42	52	F06	F02
FLPC	DeBary	4	GT	42	52	F06	F02
FLPC	DeBary	5	GT	42	52	F06	F02
FLPC	DeBary	6	GT	42	52	F06	F02
FLPC	Higgins	1	ST	39	40	F06	NG
FLPC	Higgins	2	ST	39	41	F06	NG
FLPC	Higgins	3	ST	41	42	F06	-
FLPC	Higgins	1	GT	27	30	F02	NG
FLPC	Higgins	2	GT	27	30	F02	NG
FLPC	Higgins	3	GT	30	35	F02	NG
FLPC	Higgins	4	GT	30	35	F02	NG
FLPC	Intercession	1- 6	GT	264	330	F02	-
FLPC	Port St Joe	1	GT	14	17	F02	-
FLPC	Rio Pinar	1	GT	14	17	F02	-
FLPC	Suwannee River	1	ST	34	34	F06	NG
FLPC	Suwannee River	2	ST	33	33	F06	NG
FLPC	Suwanee River	3	ST	80	80	F06	NG
FLPC	Turner	3	ST	71	72	F06	NG
FLPC	Turner	4	ST	72	75	F06	NG
FLPC	Turner	1- 2	GT	28	34	F02	-
FLPC	Turner	3 -4	GT	124	162	F02	-
			TOTAL	4030	4423		

TABLE 1.1-7 Sheet 3 of 8

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL - FLORIDA SUBREGION

EXISTING GENERATING CAPABILITY
(as of January 1, 1979)

System	Station Name	Unit No.	Unit Type	Primary Fuel: Net Capability-MW Summer	Primary Fuel: Net Capability-MW Winter	Primary Fuel: Fuel Type	Primary Fuel: Transp. Method	Alternate Fuel: Fuel Type
Fort Pierce Utilities Authority								
FOPC	King	5	ST	7	7	F06	WA	NG
FOPC	King	6	ST	18	18	F06	WA	-
FOPC	King	7	ST	35	35	F06	WA	NG
FOPC	King	8	ST	51	51	F06	WA	NG
FOPC	King	1	IC	2	2	F02	TK	-
FOPC	King	2	IC	3	3	F02	TK	-
			TOTAL	116	116			
Gainsville/Alachua County Regional Utilities Board								
GAMW	Crystal River 2/	3	NP	12	12	UR	-	-
GAMW	Deerhaven	1	ST	81	83	F06	TK	NG
GAMW	Deerhaven	1	GT	20	26	F02	TK	NG
GAMW	Deerhaven	2	GT	20	26	F02	TK	NG
GAMW	J. R. Kelly	6	ST	14	14	F06	TK	NG
GAMW	J. R. Kelly	7	ST	23	23	F06	TK	NG
GAMW	J. R. Kelly	8	ST	44	45	F06	TK	NG
GAMW	J. R. Kelly	1	GT	14	15	F02	TK	NG
GAMW	J. R. Kelly	2	GT	14	15	F02	TK	NG
GAMW	J. R. Kelly	3	GT	14	15	F02	TK	NG
GAMW	J. R. Kelly	1	IC	1	1	F02	TK	-
			TOTAL	257	275			

TABLE 1.1-7

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL - FLORIDA SUBREGION

EXISTING GENERATING CAPABILITY
(as of January 1, 1979)

System	Station Name	Unit No.	Unit Type	Primary Fuel: Net Capability-MW Summer	Primary Fuel: Net Capability-MW Winter	Primary Fuel: Fuel Type	Alternate Fuel: Fuel Type
City of Homestead							
HSTX	G. W. Ivey	1- 3	IC	6	6	F02	NG
HSTX	G. W. Ivey	7	IC	1	1	F02	NG
HSTX	G. W. Ivey	8-10	IC	9	9	F02	NG
HSTX	G. W. Ivey	11-12	IC	8	8	F02	NG
HSTX	G. W. Ivey	13-17	IC	10	10	F02	NG
HSTX	G. W. Ivey	18-19	IC	18	18	F02	NG
			TOTAL	52	52		
Jacksonville Electric Authority							
JACO	Kennedy	8	ST	43	45	F06	
JACO	Kennedy	9	ST	43	45	F06	
JACO	Kennedy	10	ST	130	134	F06	
JACO	Kennedy 5/	1- 2	GT	25	26	F02	
JACO	Kennedy 5/	3- 6	GT	216	216	F02	
JACO	Northside	1	ST	262	262	F06	
JACO	Northside	2	ST	262	262	F06	
JACO	Northside	3	ST	460	460	F06	
JACO	Northside 5/	1- 2	GT	23	28	F02	
JACO	Northside	3- 6	GT	206	244	F02	
JACO	Southside	1	ST	27	27	F06	
JACO	Southside	2	ST	29	32	F06	
JACO	Southside	3	ST	46	48	F06	
JACO	Southside	4	ST	70	72	F06	
JACO	Southside	5	ST	144	146	F06	
JACO	Southside 5/	1- 2	GT	25	30	F02	
			TOTAL	1884	1939		
Lake Worth Utilities Authority							
LWUA	Smith	1	ST	7	8	NG	F06
LWUA	Smith	2	ST	7	8	NG	F06
LWUA	Smith	3	ST	25	26	NG	F06
LWUA	Smith	4	ST	33	35	NG	F06
LWUA	Smith	5	CT/CW	20/10	23/12	NG	F02
LWUA	Smith	1	GT	29	32	F02	-
LWUA	Smith	1- 5	IC	10	10	F02	-
			TOTAL	141	154		

TABLE 1.1-7

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL - FLORIDA SUBREGION

EXISTING GENERATING CAPABILITY
(as of January 1, 1979)

				Primary Fuel			Alternate Fuel
				Net			
			Unit	Capability-MW		Fuel	Fuel
System	Station Name	Unit No.	Type	Summer	Winter	Type	Type
City of Lakeland							
LALW	Larsen	4	ST	19	19	NG	
LALW	Larsen	5	ST	25	25	NG	
LALW	Larsen	6	ST	25	25	NG	
LALW	Larsen	7	ST	40	52	NG	
LALW	Larsen	1- 3	GT	33	39	NG	
LALW	McIntosh	1	ST	92	93	NG	
LALW	McIntosh	2	ST	104	102	-	
LALW	McIntosh	1	GT	20	23	-	
LALW	McIntosh	1- 2	IC	5	6	-	
			TOTAL	372	384		
Orlando Utilities Commission							
ORLA	Crystal River 2/	3	NP	13	13	UR	-
ORLA	Indian River	1	ST	90	92	F06	NG
ORLA	Indian River	2	ST	204	208	F06	NG
ORLA	Indian River	3	ST	318	321	F06	NG
ORLA	Lake Highland	1	ST	30	31	F06	NG
ORLA	Lake Highland	2	ST	30	31	F06	NG
ORLA	Lake Highland	3	ST	30	31	F06	NG
ORLA	Lake Highland	A-B	GT	26	32	F02	NG
ORLA	Lake Highland	1	IC	1	1	F02	-
			TOTAL	742	760		
Seminole Electric Cooperative							
SECI	Crystal River 2/	3	NP	14	14	UR	-
			TOTAL	14	14		
City of Tallahasse							
TALL	Crystal River 2/	3	NP	11	11	UR	-
TALL	Hopkins	1	ST	78	80	F06	NG
TALL	Hopkins	2	ST	225	238	F06	NG
TALL	Hopkins	1	GT	14	16	F02	NG
TALL	Hopkins	2	GT	27	30	F02	NG
TALL	Purdom	1- 2	ST	14	16	F06	-
TALL	Purdom	3	ST	7	8	F06	NG
TALL	Purdom	4	ST	7	8	F06	NG
TALL	Purdom	5	ST	22	22	F06	NG

TABLE 1.1-7

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL - FLORIDA SUBREGION

EXISTING GENERATING CAPABILITY
(as of January 1, 1979)

				Primary Fuel			Alternate Fuel
				Net Capability-MW			
System	Station Name	Unit No.	Unit Type	Summer	Winter	Fuel Type	Fuel Type
City of Tallahasse (Cont'd)							
TALL	Purdom	6	ST	22	22	F06	NG
TALL	Purdom	7	ST	46	45	F06	NG
TALL	Purdom	1	GT	11	11	F02	NG
TALL	Purdom	2	GT	11	11	F02	NG
			TOTAL	459	518		
Tampa Electric Company							
TAEC	Big Bend	1	ST	362	362	BIT	
TAEC	Big Bend	2	ST	338	338	BIT	
TAEC	Big Bend	3	ST	362	362	BIT	
TAEC	Big Bend	1	GT	14	14	F02	
TAEC	Big Bend	2- 3	GT	130	130	F02	
TAEC	Gannon	1	ST	98	98	F06	
TAEC	Gannon	2	ST	108	108	F06	
TAEC	Gannon	3	ST	150	150	F06	
TAEC	Gannon	4	ST	169	169	F06	
TAEC	Gannon	5	ST	229	229	BIT	
TAEC	Gannon	6	ST	338	338	BIT	
TAEC	Gannon	1	GT	14	14	F02	
TAEC	Hookers Point	1	ST	28	28	F06	
TAEC	Hookers Point	2	ST	29	29	F06	
TAEC	Hookers Point	3	ST	28	28	F06	
TAEC	Hookers Point	4	ST	42	42	F06	
TAEC	Hookers Point	5	ST	66	66	F06	
			TOTAL	2505	2505		

TABLE 1.1-7

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL - FLORIDA SUBREGION

EXISTING GENERATING CAPABILITY
(as of January 1, 1979)

				Primary Fuel			Alternate Fuel
				Net Capability-MW			
System	Station Name	Unit No.	Unit Type	Summer	Winter	Fuel Type	Fuel Type
City of Vero Beach							
VEBM	Municipal Plant	1	ST	12	12	F06	NG
VEBM	Municipal Plant	2	ST	17	17	F06	NG
VEBM	Municipal Plant	3	ST	33	33	F06	NG
VEBM	Municipal Plant	4	ST	56	56	F04	NG
VEBM	Municipal Plant	1- 6	IC	15	15	F02	NG
			TOTAL	133	133		

1/ Units on cold standby. Capacity of these units is not included in total resources for Subregion. Reactivation of these units would require several month.

2/ Total Capability: 797/812 MW, 80/81 MW owned by various Municipal and REA utilities.

3/ Operation of Anclote 2 is contingent upon the result of proceedings with the U. S. Environmental Protection Agency concerning thermal discharge. The unit is allowed to operate only during declared emergency conditions.

4/ Being converted to coal per ESECA; expected to return to service in May of 1979.

5/ The following units are unavailable until 1980 and are excluded from the Existing Generating Capability Total: Kennedy GT 1,2,6; Northside GT 1,2; Southside GT 1,2 (total MW = 127-S, 1[illegible]8-W).

TABLE 1.1-7 Sheet 8 of 8

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL-FLORIDA SUBREGION
EXISTING GENERATING CAPABILITY

UTILITY SYSTEMS COMPRISING REPORTING PARTY

FLPL	Florida Power & Light Company
FLPC	Florida Power Corporation
FOPC	Fort Pierce Utilities Authority
GAMW	Gainesville/Alachua County Regional Utilities Board
HSTX	City of Homestead
JACO	Jacksonville Electric Authority
LWUA	Lake Worth Utilities Authority
LALW	City of Lakeland
ORLA	Orlando Utilities Commission
SECI	Seminole Electric Cooperative
SEPA	Southeastern Power Administration
TALL	City of Tallahassee
TAEC	Tampa Electric Company
VEBM	City of Vero Beach

UNIT TYPE ABBREVIATIONS

NP = PWR Nuclear
ST = Steam Turbine/Non-Nuclear
IC = Internal Combustion
GT = Combustion Turbine (Gas Turbine)
CT/CW= Combined-Cycle:
Combustion Turbine Portion/
Steam Portion - Waste Heat Only
CT/CA= Combined-Cycle:
Combustion Turbine Portion/
Steam Portion - Auxiliary Fired

FUEL TYPE ABBREVIATIONS

BIT = Bituminous Coal
NG = Natural Gas
FO2 = No. 2 Fuel Oil
FO6 = No. 6 Fuel Oil
UR = Uranium

TABLE 1.1-8

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL-FLORIDA SUBREGION

FUTURE GENERATING CAPABILITY INSTALLATIONS AND REMOVALS
(January 1, 1979 through December 31, 1988)

				Primary Fuel			Alternate Fuel		
				Net Capability-MW					
System	Station Name	Unit No.	Unit Type	Summer	Winter	Fuel Type	Fuel Type	Effective Date	Status
FLPC	Crystal River 1/	1	ST	383	383	BIT	-	5/79	
JACO	Northside	3	ST	58	58	F06	-	/79	A
TAEC	Big Bend	2	ST	24	24	BIT	-	5/79	A
FLPC	Crystal River	3	NP	27	27	UR	-	6/79	A
			TOTAL	492	492				
VEBM	Municipal Plant	1-2,4-6	IC	-15	-15	F02	-	1/80	R
JACO	Kennedy	6	GT	54	54	F02	-	3/80	S
HSTX	G. W. Ivey	20-21	IC	14	14	Unk	Unk	4/80	P
JACO	Northside	1- 2	GT	23	28	F02	-	4/80	S
FLPC	Crystal River	2	ST	50	50	BIT	-	5/80	A
FLPL	Martin	1	ST	775	787	F06	-	/80	V
FLPL	Solid Waste	1- 2	ST	40	40	SW	-	/80	P
JACO	Kennedy	1- 2	GT	25	26	F06	-	7/80	S
FLPC	Suwannee	1- 3	GT	153	195	F02	-	10/80	L
JACO	Southside	1- 2	GT	25	30	F02	-	10/80	S
			TOTAL	1144	1209				
GAMW	Deerhaven	2	ST	235	235	BIT	-	1/81	U
GAMW	J. R. Kelly	6	ST	-14	-14	F06	-	1/81	R
FLPL	Martin	2	ST	775	787	F06	-	/81	U
FLPC	Higgins	1- 3	ST	-119	-123	F06	-	10/81	R
FLPC	Higgins 2/	1- 3	CT/CA	305/119	353/123	F06	-	10/81	L
LALW	McIntosh	3	ST	200	200	BIT	-	11/81	U
ORLA	McIntosh	3	ST	134	134	BIT	-	11/81	U
			TOTAL	1635	1695				

*RR is probably better to use.

TABLE 1.1-8

SOUTHEASTERN ELECTRIC RELIABILTY COUNCIL-FLORIDA SUBREGION

FUTURE GENERATING CAPABILITY INSTALLATIONS AND REMOVALS
(January 1, 1979 through December 31, 1988)

				Primary Fuel			Alternate Fuel		
				Net Capability-MW					
System	Station Name	Unit No.	Unit Type	Summer	Winter	Fuel Type	Fuel Type	Effective Date	Status
FLPC	Crystal River	4	ST	640	640	BIT	-	12/82	U
ORLA	Lake Highland	1- 3	ST	-90	-93	FO6	NG	12/82	R
			TOTAL	550	547				
LALW	Larsen	4	ST	-19	-19	FO6	-	1/83	R
TAEC	Big Bend	4- 5	GT	100	100	FO2	-	3/83	L
FLPL	St. Lucie	2	NP	747	764	UR	-	/83	U
SECI	St. Lucie	2	NP	48	48	UR	-	/83	U
OTHER	St. Lucie	2	NP	7	8	UR	-	/83	U
JACO	Unknown	1- 3	GT	150	180	FO2	-	5/83	P
SECI	Seminole	1	ST	600	600	BIT	-	5/83	L
FLPC	Simple Cycle	1	GT	100	100	FO2	-	10/83	P
FOPC	King	5	ST	-7	-7	FO6	-	12/83	R
			TOTAL	1726	1774				
TAEC	Big Bend	6- 7	GT	100	100	FO2	-	3/84	L
FLPC	Crystal River	5	ST	640	640	BIT	-	5/84	U
TALL	Purdom	1- 4	ST	-28	-28	FO6	NG	5/84	R
			TOTAL	712	712				
TAEC	Big Bend	4	ST	417	417	BIT	-	3/85	L
FLPL	Martin Coal	1	ST	700	720	BIT	-	/85	P
JACO	Unknown		GT	150	180	FO2	-	5/85	P
SECI	Seminole	2	ST	600	600	BIT	-	5/85	L

TABLE 1.1-8

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL-FLORIDA SUBREGION

FUTURE GENERATING CAPABILITY INSTALLATIONS AND REMOVALS
(January 1, 1979 through December 31, 1988)

System	Station Name	Unit No.	Unit Type	Primary Fuel: Net Capability-MW Summer	Primary Fuel: Net Capability-MW Winter	Primary Fuel: Fuel Type	Alternate Fuel: Fuel Type	Effective Date	Status
TALL	Hopkins	3	GT	50	50	FO2	-	5/85	P
FLPC	Avon Park	2	ST	-42	-44	FO6	-	6/85	R
FLPC	Fossil-Coal	1	ST	660	660	FIT	-	10/85	P
			TOTAL	2535	2583				
LWUA	Smith	1	ST	-7	-8	NG	-	1/86	R
FLPC	Suwannee	1- 2	ST	-67	-67	FO6	-	6/86	R
ORLA	Lake Highland	A-B	GT	-26	-32	FO2	-	12/86	R
			TOTAL	-100	-107				
TALL	Unknown 3/		Unk	200	200	Unk	-	4/87	P
FLPL	Coal A	1	ST	300	300	Unk	-	/87	P
JACO	Coal A	1	ST	300	300	Unk	-	/87	P
FLPL	Martin Coal	2	ST	700	720	BIT	-	/87	P 4/
LALW	Unknown 3/		ST	200	200	Unk	-	5/87	P
ORLA	Unknown 3/		ST	150	150	BIT	-	5/87	P
FLPC	Fossil-Coal	2	ST	640	640	BIT	-	10/87	P
			TOTAL	2490	2490				
LALW	Larsen	1- 3	GT	-33	-39	FO2	-	1/88	R
LWUA	Smith	2	ST	-7	-8	NG	-	3/88	R
FOPC	King	6	ST	-18	-18	FO6	-	12/88	R
			TOTAL	-58	-65				

1/ Conversion from oil to coal complete.
2/ Conversion of Higgins 1-3 from steam to combined cycle.
3/ Possible joint participation unit.
4/ Certain initial activities have been authorized for this unit.

TABLE 1.1-8 Sheet 4 of 4

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL-FLORIDA SUBREGION
EXISTING GENERATING CAPABILITY

UTILITY SYSTEMS COMPRISING REPORTING PARTY

FLPL	Florida Power & Light Company
FLPC	Florida Power Corporation
FOPC	Fort Pierce Utilities Authority
GAMW	Gainesville/Alachua County Regional Utilities Board
HSTX	City of Homestead
JACO	Jacksonville Electric Authority
LWUA	Lake Worth Utilities Authority
LALW	City of Lakeland
ORLA	Orlando Utilities Commission
SECI	Seminole Electric Cooperative
SEPA	Southeastern Power Administration
TALL	City of Tallahassee
TAEC	Tampa Electric Company
VEBM	City of Vero Beach

UNIT TYPE ABBREVIATIONS

NP = PWR Nuclear
ST = Steam Turbine/Non-Nuclear
IC = Internal Combustion
GT = Combustion Turbine (Gas Turbine)
CT/CW= Combined-Cycle:
Combustion Turbine Portion/
Steam Portion - Waste Heat Only
CT/CA= Combined-Cycle:
Combustion Turbine Portion/
Steam Portion - Auxiliary Fired

FUEL TYPE ABBREVIATIONS

BIT = Bituminous Coal
NG = Natural Gas
F02 = No. 2 Fuel Oil
F06 = No. 6 Fuel Oil
UR = Uranium

FUTURE UNIT STATUS ABBREVIATIONS

P = Planned
L = Regulatory Approved Pending; not under construction
U = Under Construction, less than 50% complete
V = Under Construction, more than 50% complete
T = Regulatory Approved Received, but not under construction
A = Capability Increase
D = Capability Decrease
M = Inactive Reserve
S = Reactivated from M
R = Permanently Removed

TABLE 1.1-9

FLORIDA POWER & LIGHT COMPANY
FORECAST OF CAPACITY, DEMAND, AND SCHEDULED MAINTENANCE
AT TIME OF SUMMER PEAK[(a)]

Year	Total Installed Capacity MW	Firm Capacity Import MW	Total Available Capacity MW[(c)]	Peak Demand MW[(b)]	Margin Before Maintenance MW	Margin Before Maintenance % of PK.	Sched. Maint. MW	Margin After Maintenance MW	Margin After Maintenance % of PK.
1979	10,957	0	10,957	8,975	1,982	22	450	1,532	17
1980	11,732	0	11,732	9,540	2,192	23	250	1,942	20
1981	12,547	0	12,547	9,930	2,617	26	250	2,367	24
1982	12,547	0	12,547	10,320	2,227	22	250	1,977	19
1983	13,294	0	13,294	10,715	2,579	24	250	2,329	22
1984	13,294	0	13,294	11,105	2,189	20	250	1,939	17
1985	13,994	0	13,994	11,495	2,499	22	250	2,249	20
1986	13,994	0	13,994	11,885	2,109	18	250	1,859	16
1987	14,994	0	14,994	12,275	2,719	22	250	2,469	20
1988	14,994	0	14,994	12,670	2,324	18	250	2,074	16

[(a)] Capacity additions and changes must be made by June to be considered in effect at the time of the Summer peak. All values are Summer net MW.

[(b)] This represents the number for which there is equal probability for the peak load forecast to be above or below this number and is to be used only where a singular forecast is required.

[(c)] Actual rating of St. Lucie Unit #2 is 802 MW however, 55 MW have been offered for sale to other utilities. Capacity values reflect 747 MW.

TABLE 1.1-10

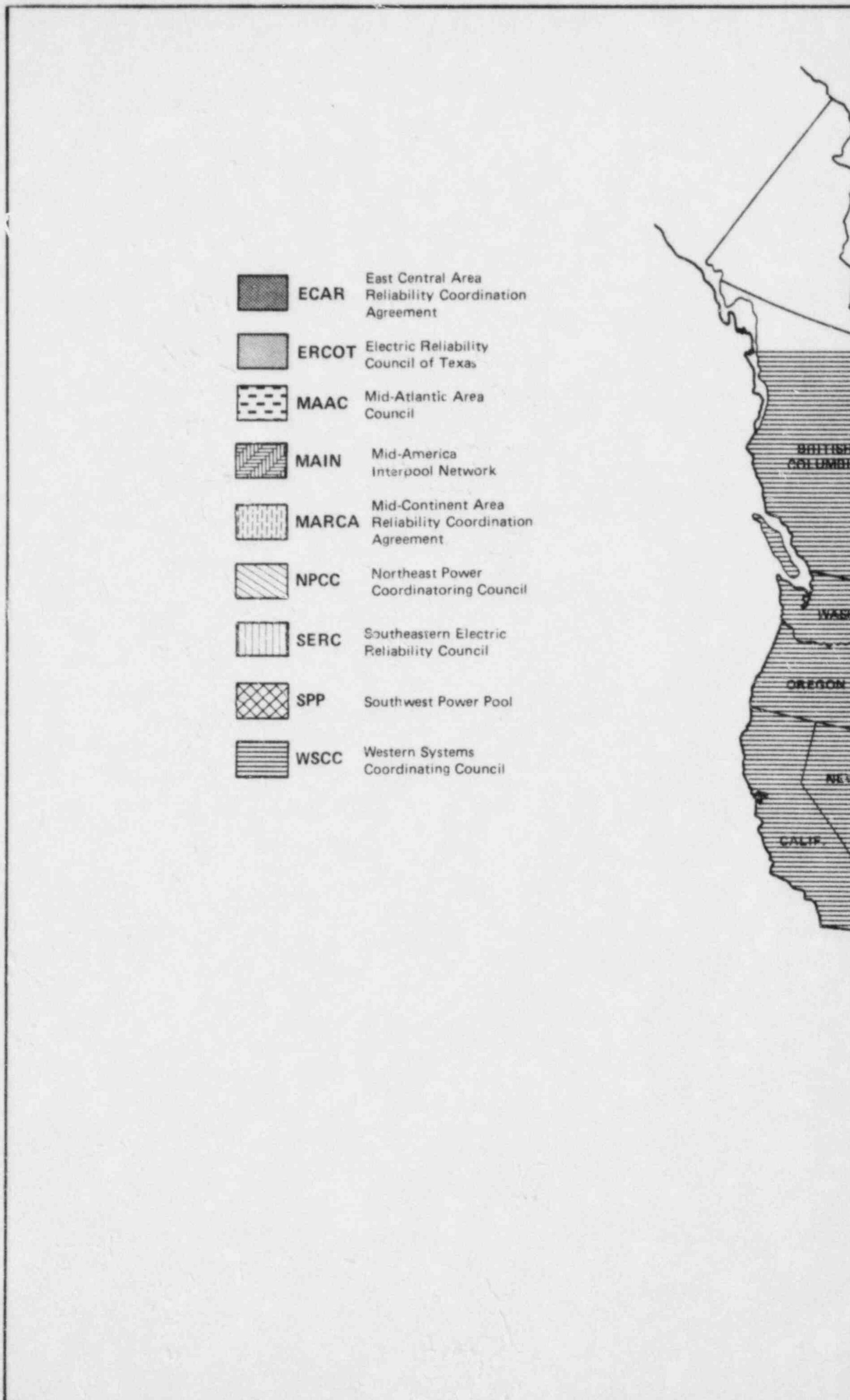
FLORIDA POWER & LIGHT COMPANY
SYSTEM LOAD, CAPACITY AND RESERVE

Year	Peak Demand (MW)	Net Summer Peak Capability[b] (MW)	Reserve with St. Lucie #2[a] (MW)	Reserve with St. Lucie #2[a] (%)	Reserve without St. Lucie #2[c] (MW)	Reserve without St. Lucie #2[c] (%)
1973	6,894	7,277			383	6
1974	7,235	9,015			1,780	25
1975	7,076	9,015			1,939	27
1976	7,598	8,646			1,048	14
1977	7,841	9,638			1,797	23
1978	8,345	10,848			2,503	30
1979	8,975	10,957			1,982	22
1980	9,540	11,732			2,192	23
1981	9,930	12,547			2,617	26
1982	10,320	12,547			2,227	22
1983	10,715	13,294	2,579	24	1,832	17
1984	11,105	13,294	2,189	20	1,442	13
1985	11,495	13,994	2,499	22	1,052	9
1986	11,885	13,994	2,109	18	662	6

[a] Same as "without St Lucie 2" except where indicated.

[b] Actual rating of St Lucie Unit 2 is 802 MW however, 55 MW have been offered for sale to other utilities.

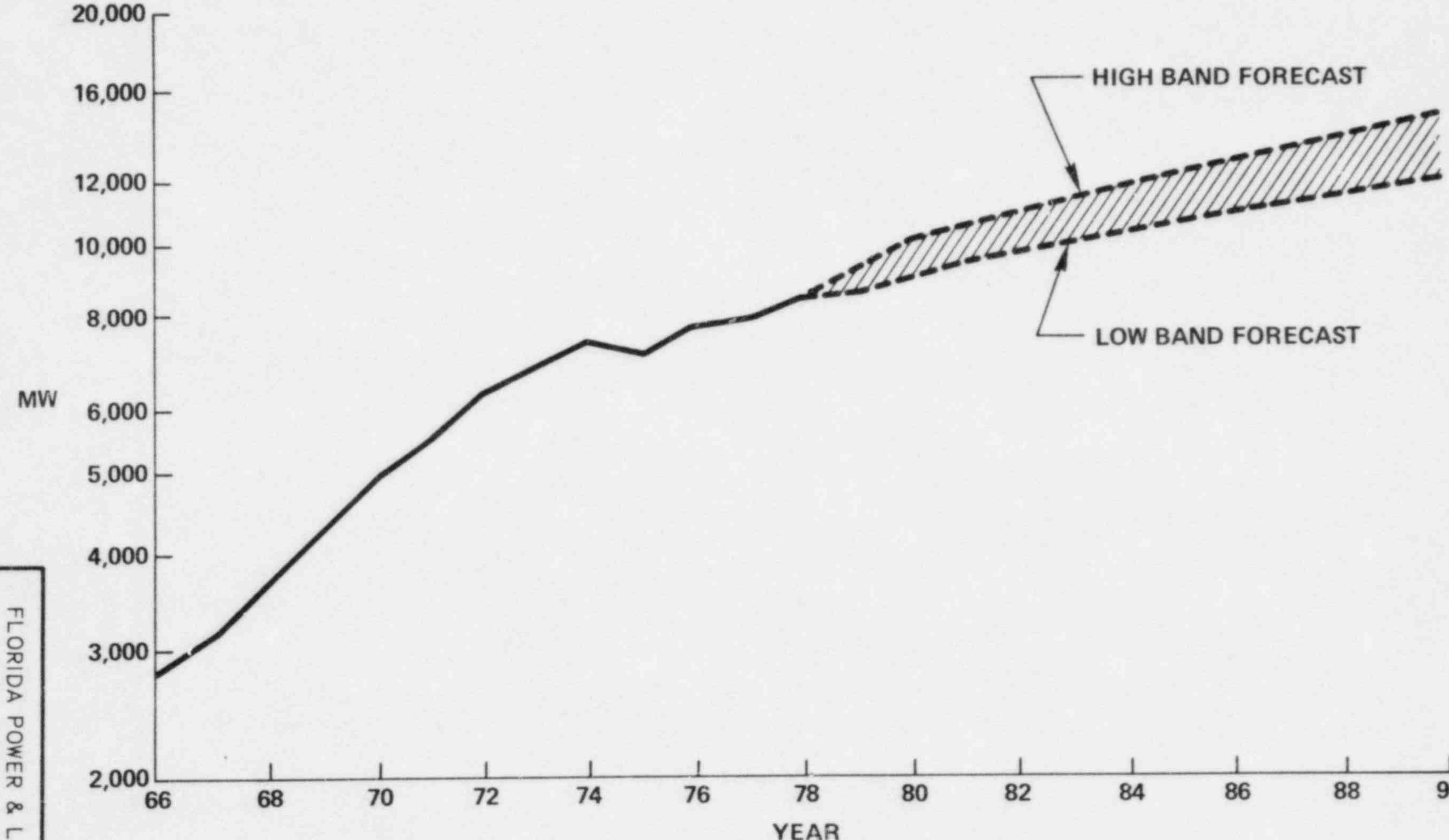
[c] "Reserve without St Lucie 2" also assumes that the planned Martin Coal 3 unit will not be added (planned for 1985).


ECAR East Central Area Reliability Coordination Agreement
ERCOT Electric Reliability Council of Texas
MAAC Mid-Atlantic Area Council
MAIN Mid-America Interpool Network
MARCA Mid-Continent Area Reliability Coordination Agreement
NPCC Northeast Power Coordinatoring Council
SERC Southeastern Electric Reliability Council
SPP Southwest Power Pool
WSCC Western Systems Coordinating Council
BRITISH COLUMBIA
OREGON
CALIF.

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

NATIONAL ELECTRIC
RELIABILITY COUNCIL

FIGURE 1.1-1

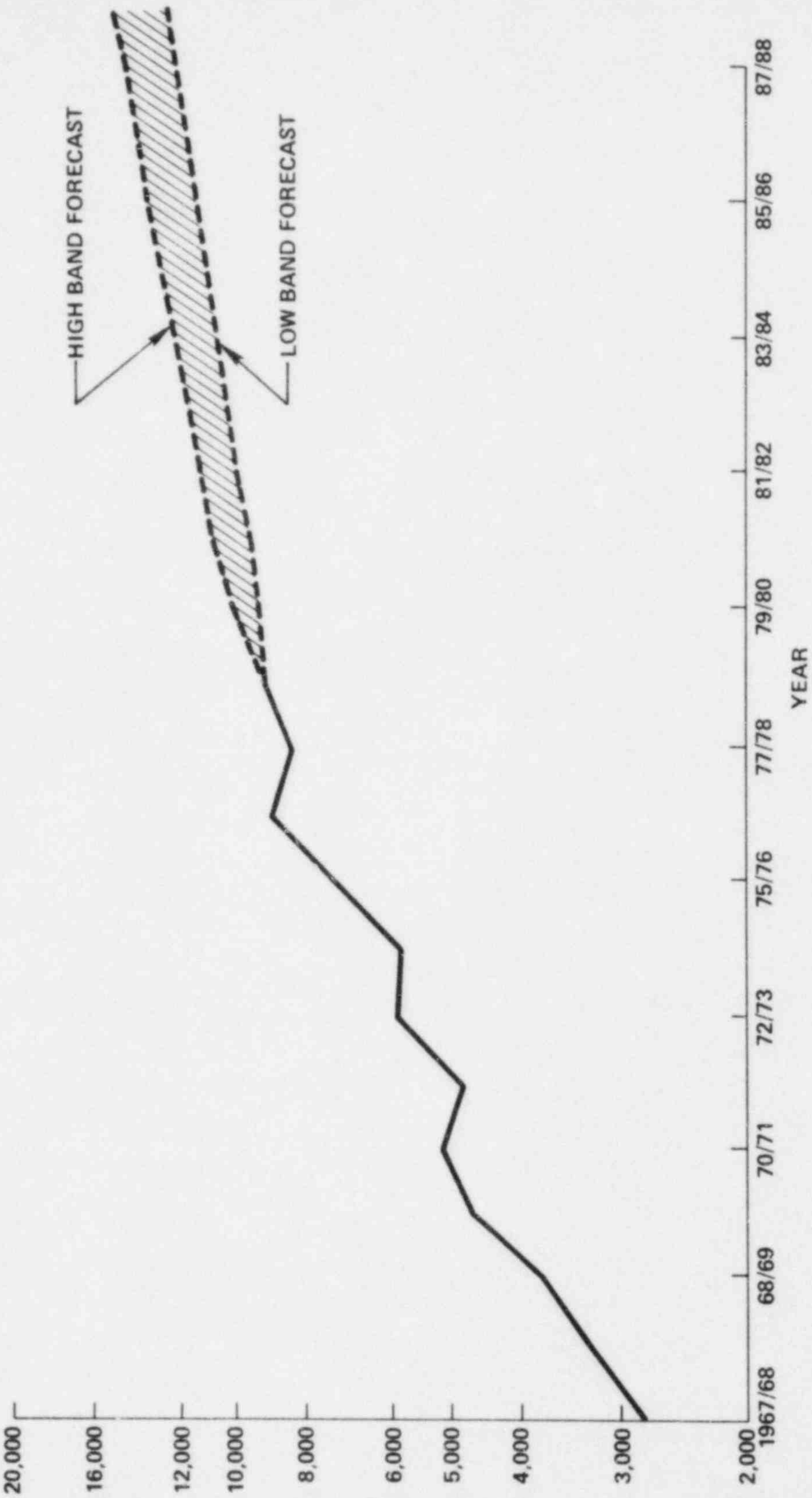


FLORIDA POWER & LIGHT COMPANY

ST. LUCIE PLANT UNIT 2

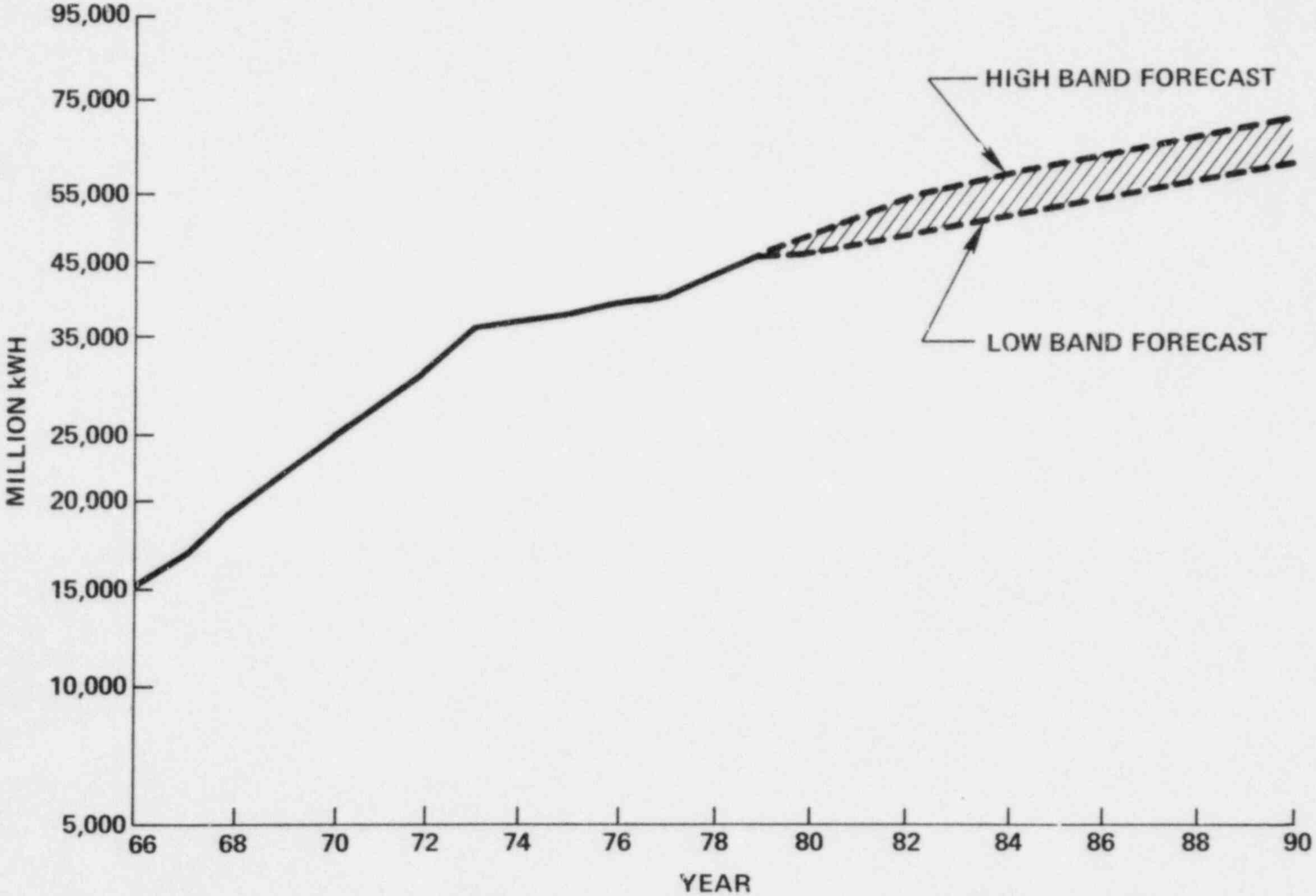
TEN YEAR FORECAST
NET SUMMER PEAK LOAD
(60 MINUTE NET)

FIGURE 1.1-2



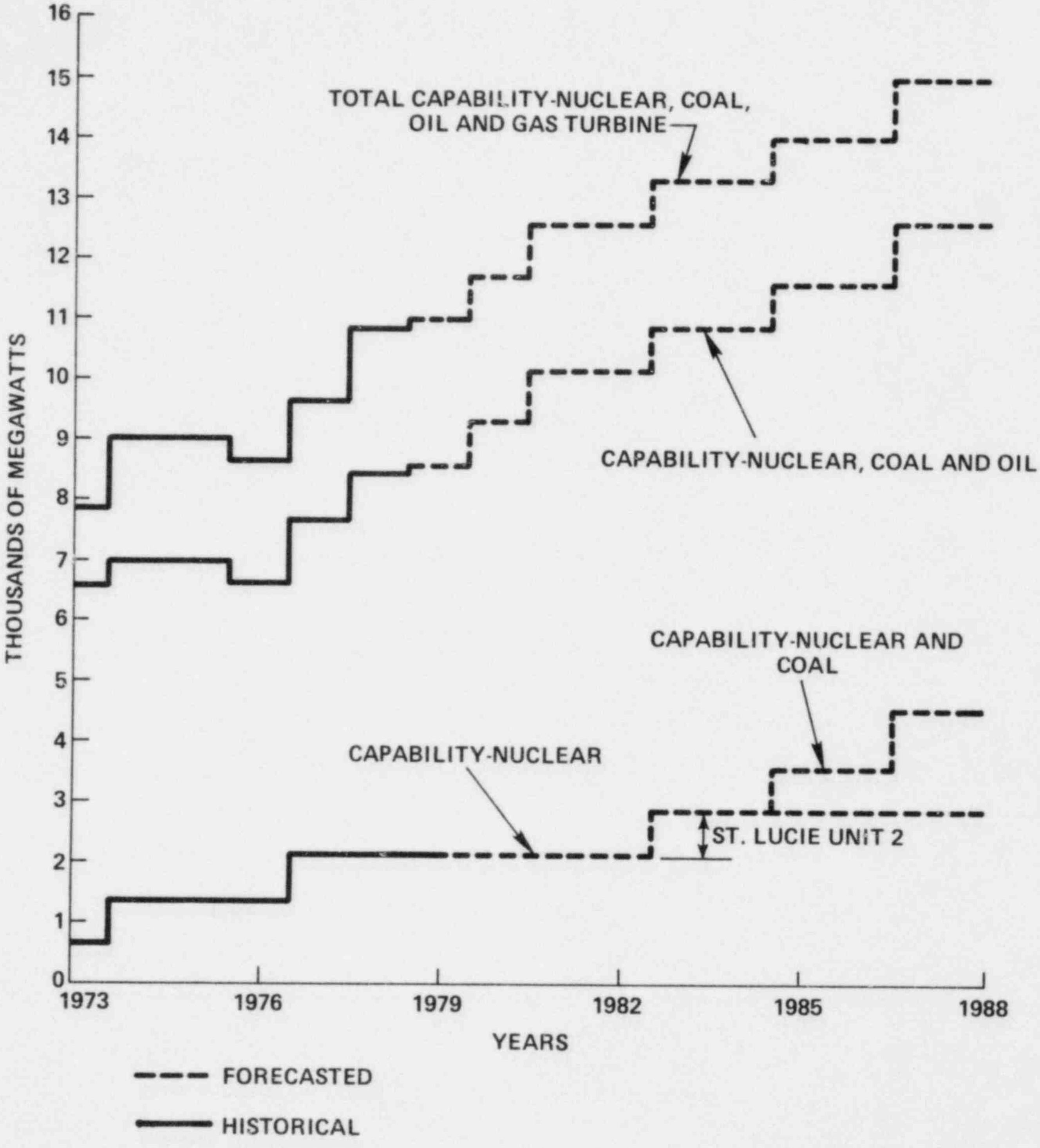
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

TEN YEAR FORECAST
NET WINTER PEAK LOAD
(60 MINUTE NET)
FIGURE 1.1-3



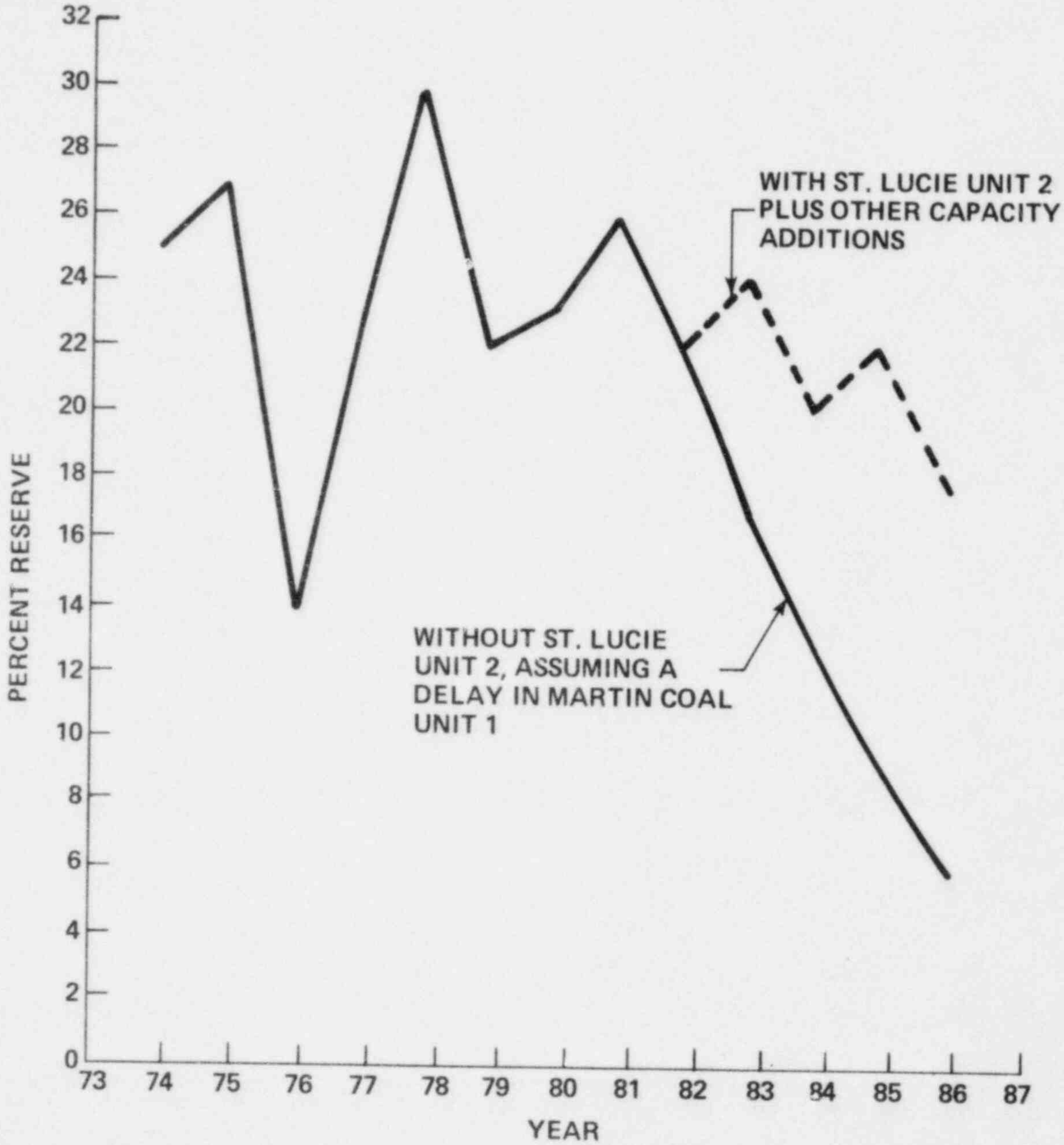
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

TEN YEAR FORECAST
NET ENERGY
FIGURE 1.1-4



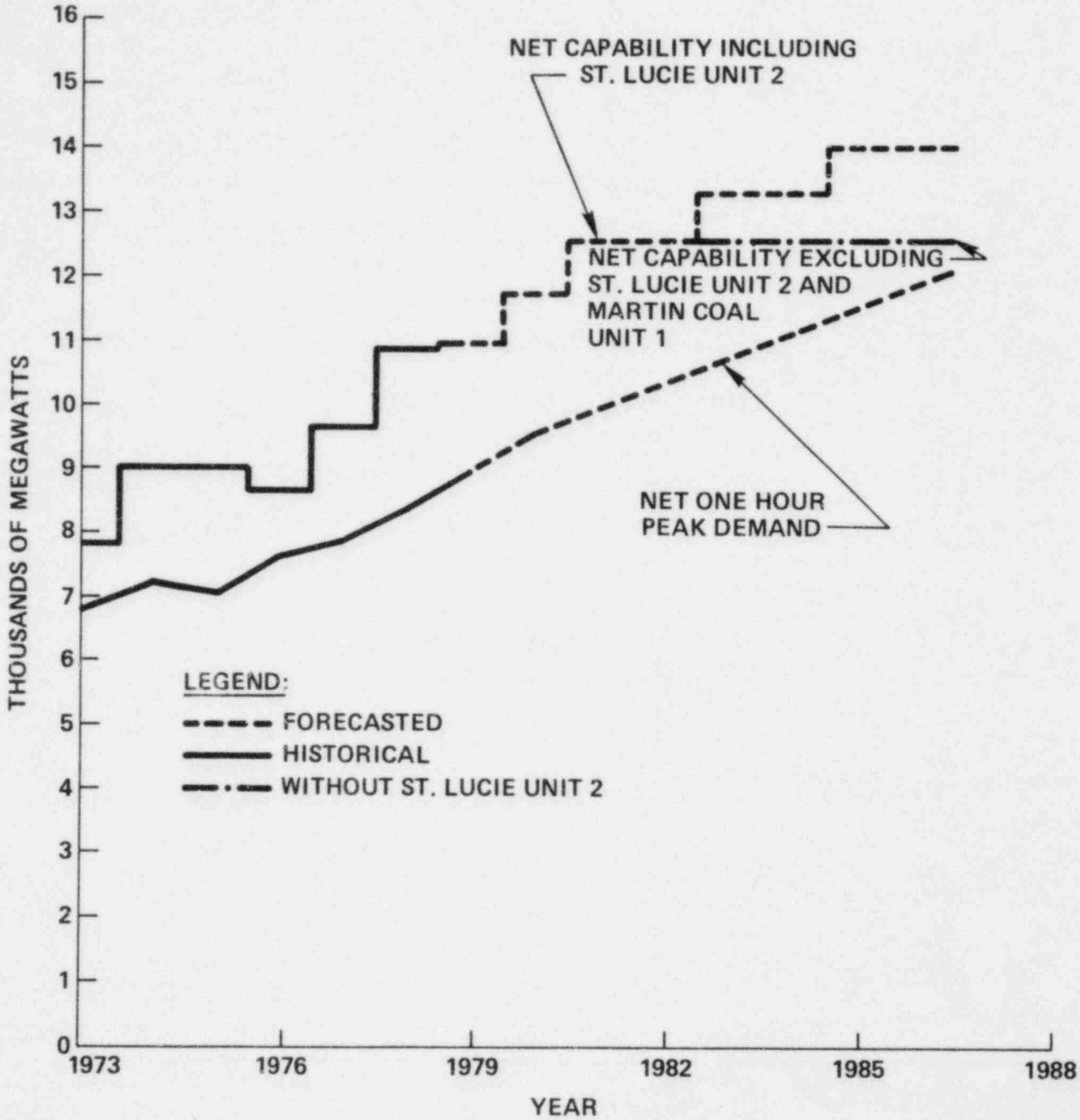
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

SYSTEM SUMMER NET CAPABILITY
FIGURE 1.1-5



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

FLORIDA POWER & LIGHT
RESERVE MARGIN
FIGURE 1.1-6



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

SYSTEM LOAD & SUMMER NET CAPABILITY

FIGURE 1.1-7

APPENDIX 1.1A

SOUTHEASTERN ELECTRIC RELIABILITY COUNCIL

AGREEMENT

Dated as of January 14, 1970

Amended October 10, 1973

CONTENTS

AGREEMENT, dated as of January 14, 1970, between ALABAMA ELECTRIC COOPERATIVE, INC., ALABAMA POWER COMPANY, CAROLINA POWER AND LIGHT COMPANY, CRISP COUNTY POWER COMMISSION, DUKE POWER COMPANY, FLORIDA POWER CORPORATION, FLORIDA POWER AND LIGHT COMPANY, GEORGIA POWER COMPANY, GULF POWER COMPANY, THE JACKSONVILLE ELECTRIC AUTHORITY, CITY OF LAKELAND-DEPARTMENT OF ELECTRIC & WATER UTILITIES, MISSISSIPPI POWER COMPANY, NANTAHALA POWER AND LIGHT COMPANY, ORLANDO UTILITIES COMMISSION, SAVANNAH ELECTRIC AND POWER COMPANY, SOUTHEASTERN POWER ADMINISTRATION, SOUTH CAROLINA ELECTRIC & GAS COMPANY, SOUTH CAROLINA PUBLIC SERVICE AUTHORITY, CITY OF TALLAHASSEE, TAMPA ELECTRIC COMPANY, TENNESSEE VALLEY AUTHORITY, AND VIRGINIA ELECTRIC AND POWER COMPANY, and amended by action of the Board on April 1, 1970, to include TAPOCO, INC., and YADKIN, INC.; by Board action on October 6, 1971, to include SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION, BIG RIVERS ELECTRIC CORPORATION of HENDERSON, KENTUCKY, and MUNICIPAL POWER AND LIGHT DEPARTMENT of HENDERSON, KENTUCKY; by Board action on October 10, 1973, to include GAINESVILLE/ALACHUA COUNTY REGIONAL UTILITIES SYSTEM; and by Board action on November 29, 1973, to include FORT PIERCE MUNICIPAL POWER SYSTEM and VERO BEACH MUNICIPAL POWER SYSTEM; as parties to the Agreement, (Hereafter referred to separately as a Member System, collectively as Member Systems.)

WITNESSETH:

Each Member System is concerned with the reliability and adequacy of bulk power supply in the area in which it serves.

ARTICLE 1

NAME

1.01 This organization shall be known as the Southeastern Electric Reliability Council. (Council).

ARTICLE 2

PURPOSE OF AGREEMENT

2.01 The purpose of this Agreement is to augment further the reliability and adequacy of bulk power supply in the areas served by the Member Systems. To this end, the Council will:

(a) encourage the development of reliability and adequacy arrangements among the systems within the region;

(b) exchange information with respect to planning and operating matters relating to the reliability and adequacy of bulk power supplies;

(c) review periodically activities within the region on reliability and adequacy;
(d) provide information with respect to matters considered by the Council, where appropriate, to the Federal Power Commission and to other Federal and state agencies concerned with reliability and adequacy.

ARTICLE 3

MEMBERSHIP

3.01 Any power supply entity operating or otherwise having responsibility for the operation of facilities normally connected with the interconnected power system in the general area encompassed by the Member Systems, and providing bulk power supply with normally connected generating capacity of 25 mw or more may become a member.

3.02 The Board shall designate as associate members of the Council up to four representatives from each of the following categories of distribution systems (including any with generating capacity of less than 25mw) which are not members of the Council but are connected to the Member Systems: (a) municipal and other publicly owned systems and (b) rural electric cooperatives. Such associate members may be chosen by the Board from names suggested by the systems in such categories, giving due regard to geographic location. Associate members may participate in meetings of the Board but shall not be entitled to vote.

ARTICLE 4

ORGANIZATION

4.01 The affairs of the Council shall be administered by an Executive Board (Board) which shall consist of the principal officer or other authorized representative of each Member System.

4.02 Any member of the Board may designate an alternate to represent him at any meeting. Voting shall be in proportion to installed generating capacity and a vote of nine-tenths of the total voting rights of the membership shall be required for action by the Board. Installed generating capacity shall be determined as nameplate value is reported on FPC Form 1.

4.03 Regular meetings of the Board shall be held on the first Wednesday of April and October in each year; special meetings may be called by the Chairman on his own initiative and shall be called upon request of two or more members. As far in advance of each meeting as practical, an agenda therefor shall be distributed to the members.

4.04 Bienially at the April meeting the members of the Board shall select one of their members to serve as Chairman, one as Vice Chairman, and one as Secretary-Treasurer, each for a term of two years.

4.05 The Chairman shall conduct all meetings and shall be responsible for the preparation of the agenda therefor. In his absence, the Vice Chairman shall serve in his place.

4.06 The Secre ry-Treasurer shall sign or countersign checks, arrange audits of financial records, sign appropriate documents, and perform such other duties normally performed by Secretary-Treasurer, except duties of the Administrative Manager.

4.07 The Executive Committee shall consist of the Chairman, Vice Chairman, Secretary-Treasurer, and Ex Officio Chairman of the Technical Advisory Committee. It is empowered to make such decisions and take such actions as are deemed to be required between meetings of the Executive Board.

4.08 The Board may appoint such committees and task forces as it deems necessary to carry out the purposes of this Agreement.

4.09 The Executive Committee shall arrange for the services of an Administrative Manager. Under general direction, he shall manage the operations of the Council to the end that its purposes will be accomplished. Among his duties are to assist in and coordinate the preparation of testimony and reports, coordination of Subregional activities and Interregional affairs, initiation of agendas for Board and TAC meetings, arranging for meetings, handling financial affairs, keeping minutes of Board meetings, securing office space and other services as needed. He will normally attend all Board and standing committee meetings of SERC and the Technical Advisory Committee meetings of NERC. He shall provide other assistance to SERC and NERC as appropriate.

4.10 The Board shall, within the scope of Article 2, paragraph 2.01, periodically review principles and procedures with respect to matters affecting the reliability and adequacy of bulk power supply of the region.

ARTICLE 5

REGULATORY COMMISSION PARTICIPATION

5.01 To implement the purpose of this organization, the Chairman of the Federal Power Commission and the Chairman or President of any State Utility Commission in a state in which electric service is provided by a member of this Council shall each be invited to designate a representative to attend meetings of the Board.

ARTICLE 6

EXPENSE

6.01 The expenses of each member or associate member, appointed committees and task forces, and of the Secretary-Treasurer shall be borne by the party by whom he is regularly employed. Administrative expenses of the Council itself will be authorized by the Board through the adoption of an annual budget. Such administrative expenses shall be shared in proportion to voting rights by the systems which are members of the Council. The commitment of Southeastern Power Administration to share in the administrative expenses of the Council is dependent upon the availability of appropriations for such purpose.

ARTICLE 7

TERM

7.01 This Agreement shall continue until terminated by unanimous agreement of the parties, but any party to this Agreement may cease to be such by giving the others at least 30 days written notice of its intention. Any such party shall nevertheless continue to be liable for any obligation it may have had to pay a share of the expenses of the Council incurred prior to the end of the calendar year in which such notice is given.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed.

ALABAMA ELECTRIC COOPERATIVE, INC.

GAINES R. JEFFCOAT
President

ALABAMA POWER COMPANY

JOSEPH M. FARLEY
President

1.2 OTHER OBJECTIVES

The single primary objective of St Lucie Unit 2 is to assure FP&L's ability to produce efficient, low cost electricity to meet the demands of its customers and to provide a level of reserve power to the system as a whole.

1.3 CONSEQUENCES OF DELAY

All parts of Section 1.3 are based on the Ten Year Power Plant Site Plan 1979-1988 and information current to May 1979.

1.3.1 EFFECTS ON FLORIDA POWER & LIGHT COMPANY SYSTEM

The effects of delays of St Lucie Unit 2 on the generation reserve margins for Florida Power & Light Company are shown in Table 1.3-1. This table illustrates the effects of delays of one, two, and three years to 1983, 1984, and 1985. Since it is likely that a delay in St Lucie 2 would precipitate a delay in Martin Coal Unit 3, the reserve margin analysis accounts for this. This analysis was based on the most probable forecast and the current generation expansion plan other than the delays of the above mentioned units.

It is apparent that one, two, and three year delays of the commercial date for St Lucie 2 significantly reduce Florida Power & Light Company's generation reserves to 17 percent, 13 percent, and 9 percent in 1983, 1984, and 1985, respectively. These reserve margins are dangerously low and directly reduce Florida Power & Light Company's system reliability and ability to "meet all reasonable demands for service and provide a reasonable reserve for emergencies."

1.3.2 EFFECTS ON FLORIDA SUBREGION

Delays of one, two, and three years in the commercial operation of St Lucie 2 will produce the following effects on the reserve margins of the Florida Subregion of SERC. (Delay of St Lucie 2 causes an equivalent delay of Martin Coal 3.)

Year	Delay Time (Years)	% Reserve Without Delay	% Reserve With Delay
1983	1	24.4%	20.7%
1984	2	22.6%	19.0%
1985	3	25.3%	18.9%

Note: The above values are based on generation capacity of the Florida Subregion, excluding Florida Power Corporation's Anclote Unit 2 since that unit is currently allowed to operate only during declared emergency conditions awaiting proceedings with the United States EPA.

1.3.3 CONSEQUENCES OF NO INCREASE IN CAPACITY

If Florida Power & Light Company added no generation in 1983 or beyond, the Company's ability to maintain sufficient reserves will rapidly diminish. As indicated below, by 1988, the forecasted load will exceed the Company's generating capability. This would mean that Florida Power & Light Company could not meet the system load and would be in conflict with Florida Law.

Year	Net Summer Capacity	% Reserves
1983	12,547	17
1984	12,547	13
1985	12,547	9
1986	12,547	6
1987	12,547	2
1988	12,547	(1)

TABLE 1.3-1

EFFECTS OF DELAY ON FLORIDA POWER & LIGHT COMPANY'S SYSTEM

Unit Addition	Year	Net Summer Capability (MW)	Load (MW)	Reserve (MW)	Reserve (%)
		St Lucie Unit 2 on Schedule			
St Lucie 2	1983	13,294	10,715	2,579	24
No Addition	1984	13,294	11,105	2,189	20
Martin Coal 3	1985	13,994	11,495	2,499	22
		St Lucie Unit 2 Delayed One Year			
No Addition	1983	12,547	10,715	1,832	17
St Lucie 2	1984	13,294	11,105	2,189	20
No Addition*	1985	13,294	11,495	1,799	16
		St Lucie Unit 2 Delayed Two Years			
No Addition	1983	12,547	10,715	1,832	17
No Addition	1984	12,547	11,105	1,442	13
St Lucie 2*	1985	13,294	11,495	1,799	16
		St Lucie Unit 2 Delayed Three Years			
No Addition	1983	12,547	10,715	1,832	17
No Addition	1984	12,547	11,105	1,442	13
No Addition	1985	12,547	11,495	1,052	9

It is assumed that if St Lucie Unit 2 is delayed, then Martin Coal Unit 3 will be delayed and is therefore not shown in-service in 1985 as currently planned.

THE SITE AND ENVIRONMENTAL INTERFACES

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2.1 GEOGRAPHY AND DEMOGRAPHY

2.1.1 SITE LOCATION AND DESCRIPTION

2.1.1.1 Specification and Location

Florida Power & Light Company's (FP&L) St Lucie site is located on Hutchinson Island, St Lucie County, Florida. St Lucie Unit 2 is located at latitude 27^{o} 20' 55" north and longitude 80^{o} 14' 47" west; the Universal Transverse Mercator (UTM) coordinates are 3025150 meters north and 574500 meters east in Zone 17. Approximately 300 feet to the north of St Lucie Unit 2 is FP&L's St Lucie Unit 1, which has been operational since 1976. The coordinates for St Lucie Unit 1 are latitude 27^{o} 20' 58" north and longitude 80^{o} 14' 48" west; the UTM coordinates are 3025250 meters north and 574450 meters east.

The eastern boundary of the site is the Atlantic Ocean and the western boundary is the Indian River, a tidal lagoon. Other prominent natural features within 50 miles of the site include Lake Okeechobee, 30 miles to the west-southwest of the site and a portion of the Everglades approximately 24 miles to the south of the site. Figure 2.1-1 shows the site in relation to the region within 50 miles. Figure 2.1-2 shows the area within five miles of the site.

Prominent cities within ten miles of the site include Fort Pierce, approximately seven miles to the northwest of the site; Port St Lucie, 4.5 miles to the south-southwest of the site; and Stuart, 8.0 miles to the south of the site. The largest urbanized area within 50 miles of the site is West Palm Beach located 36 miles to the south southeast. All distances are straight line measurements from the site to the closest boundary of each city or area.

Transportation facilities within five miles of the site include U S Highway 1; State Roads (SR) A1A, 712 and 707; the Florida East Coast Railroad, shipping on the Atlantic Ocean and the Intracoastal Waterway which is located in the Indian River. SR A1A, the major north-south route on Hutchinson Island, traverses FP&L's property to the east of St Lucie Units 1 and 2. Figure 2.1-2 shows the location of these transportation facilities.

2.1.1.2 Site Description

A map of FP&L's St Lucie site is shown in Figure 2.1-3, entitled Site Area Map. This map includes plant property lines, site boundary, principle plant structures and boundary lines of the exclusion area and low population zone. FP&L owns approximately 1132 acres of land. The site is generally flat, and has dense vegetation characteristic of Florida coastal mangrove swamps. At the ocean shore, the land rises slightly to a dune or ridge approximately 19 feet above mean sea level.

Figure 3.1-1 shows the location and orientation of the principal plant facilities for St Lucie Units 1 and 2. The area preempted by the plant is about 300 acres, or 27 percent of the total land owned by FP&L.

There are no industrial, commercial, institutional, recreational or residential structures within the plant area. SR A1A traverses FP&L's property approximately 1,000 feet east of the St Lucie Unit 2 containment building.

The exclusion area and the low population zone are shown in Figure 2.1-3. The radius of the exclusion area is 0.97 miles from the St Lucie Unit 2 containment building. The low population zone includes that area within approximately one mile of the St Lucie Unit 2 reactor.

2.1.1.3 Boundaries for Establishing Effluent Release Limits

The minimum boundary distance for establishing gaseous effluent release limits is that noted on Figure 2.1-4, Property Plan, directly north of the St Lucie Unit 2 reactor containment building. Also indicated in Figure 2.1-4 are other boundary line distances from plant liquid and gasesous release points. The restricted area, as defined in 10CFR20 includes the fenced area shown in Figure 2.1-5.

2.1.2 POPULATION DISTRIBUTION

2.1.2.1 Population Within Ten Miles

Table 2.1-1 and Figure 2.1-6 show the distribution of present and projected population within ten miles of St Lucie Unit 2. The estimated 1978 population within ten miles of the plant is 71,051 persons, concentrated in the cities of Fort Pierce and Stuart which are the seats of government and centers of activity for St Lucie and Martin Counties, respectively. Most of the area within ten miles of St Lucie Unit 2 is in St Lucie County; only annular sectors S and SSW between the five and ten mile radii, fall within Martin County. The total population in 1978 for St Lucie County is estimated to be 76,500 persons[1]. The 58,095 residents of St Lucie County, within the ten mile radius, represent 75.9 percent of the county total. In the same manner, the 12,956 residents of Martin County, within the ten mile radius, comprise 24.4 percent of the total estimated county population of 53,100 in 1978[1].

2.1.2.1.1 Cities, Towns and Settlements

Cities, towns and settlements within ten miles of St Lucie Unit 2 are shown in Figure 2.1-7. All or part of several incorporated areas fall within the ten mile radius. The largest of these is the city of Fort Pierce, with an estimated 1978 population of 33,083. The mainland portion of Fort Pierce falls in sectors NW and NNW, while the section of Fort Pierce on the northern end of Hutchinson Island is in sector NNW. This area, called South Beach, is linked to the mainland by South Bridge, a continuation of State Route (SR) A1A.

Nearly all of Fort Pierce's population is located within the five to ten mile annulus. A part of the Fort Pierce incorporated area, a long narrow extension to the southeast, comes within 4.1 miles of St Lucie Unit 2. However, most of this area consists of the Savannahs Recreation Area and has few residents.

The second incorporated area in St Lucie County within the ten mile radius is the city of Port St Lucie. The total population for Port St Lucie in 1978 is estimated to be 6,465[2]. Approximately 75 percent of the incorporated area falls within ten miles of St Lucie Unit 2, extending from the S to W sectors. Although lots have been platted and sold in many sections, residential development in 1978 is concentrated in annular sector SW five to ten and WSW five to ten[3]. In 1978, that part of Port St Lucie east of US Highway 1, (US 1) within five miles of the site, has no residential development[4].

A portion of the incorporated area of the city of Stuart falls within annular five Sector to ten. The estimated 1978 population for the city of Stuart is 10,760 persons. As in the Fort Pierce area, the city of Stuart offers residents services and employment, proximity to the Atlantic Ocean and beaches, and access to Hutchinson Island. Two of the three means of access to Hutchinson Island, the Jensen Beach Bridge and Stuart Causeway, are located in annular sector SSE five to ten.

The town of Ocean Breeze Park is located in Martin County, north of the city of Stuart, on the western shore of the Indian River in annular sector SSE five to ten. Ocean Breeze Park adjoins the community of Jensen Beach, located at the intersection of SR 707 and the Jensen Beach Causeway (SR A1A) to Hutchinson Island. Also, in the SSE sector is a portion of the Town of Sewall's Point, which occupies the peninsula separating the St Lucie River from the Indian River.

Along the western shoreline of the Indian River (paralleling SR 707 east of the Florida East Coast Railroad) is a ridge of dry sandy soils[22]. This area, which is predominately low density residential throughout the five mile radius, includes the unincorporated settlements of Eden, Walton, and Ankona. A development called Indian River Estates is located in sectors W and WNW, between three and five miles of St Lucie Unit 2. Approximately 40 percent of its land was developed for residential use in 1978[4]. Collins Park Estates, also in annular sector WNW four to five, is west of Indian River Estates and is smaller in area but more densely settled. Together, these developments contain about 500 dwelling units.

Spanish Lakes is another major development in the unincorporated county inside the five mile radius. This mobile home community, which has 1387 lots[5], is located in annular sector WSW four to five, east of US 1. To the west of US 1, in sector WSW, the developers of Spanish Lakes have completed a second project called Riverfront, which has a total of 620 units[5]. In both projects, a significant proportion of dwelling units are owned or occupied by seasonal vistors rather than residents.

There are extensive areas of vacant land south of Indian River Estates between US 1 and the coastal ridge. Portions of this area are being acquired by the State of Florida for the Savannahs State Preserve[6].

On Hutchinson Island, in 1978, all resident population within the five mile radius was limited to annular sector SSE four to five. The 1928 persons in SSE four to five included residents of Nettles Island, a trailer park of 1588 lots[7], most of which are located in a man-made island reached by a short causeway. Many of the lots are owned or rented by persons who are seasonal vistors.

2.1.2.1.2 Population by Annular Sectors

The most heavily populated annular sectors are those which cover the towns and developments mentioned above. The most heavily populated annular sector in 1978 was NW five to ten, which includes much of the city of Fort Pierce with an estimated 36,483 residents.

2.1.2.1.3 Population by Annuli

In 1978, the annulus between five and ten miles of St Lucie Unit 2 was more densely populated than the area within five miles. Population density for the five to ten mile annulus (excluding the seven sectors over the Atlantic Ocean) has 473 persons per square mile. Inside five miles, the four to five mile annulus has a density of 427 persons per square mile.

In 1978, the area within four miles of the plant was sparsely populated, with an overall density of 46.1 persons per square mile (excluding the five sectors over the Atlantic Ocean). Within two miles of St Lucie Unit 2, there was an estimated total of 97 residents, a population density of approximately 11 persons per square mile. The entire area within one mile of the plant is owned by FP&L and is included in the exclusion area and low population zone. Much of the area in the one to two mile annulus is over water.

2.1.2.1.4 Population by Sectors

The most populous sector within ten miles of St Lucie Unit 2 is the NW sector which, because of the large concentration of resident population in the city of Fort Pierce, contains 36,657 persons. The second most heavily populated sector is SSE, which has 8140 persons and includes Hutchinson Island, the Atlantic Coast in the vicinity of Stuart, and Nettles Island. The adjacent sector, S, is third highest with 7179 residents in 1978.

2.1.2.1.5 Projected Population

The population within ten miles of St Lucie Unit 2 is expected to more than double during the life of the plant, from 71,051 in 1978 to 158,851 in 2030. This represents an increase of 123.6 percent over the 52 year period, an average annual rate of growth of 2.4 percent. The State of Florida is expected to grow by an average annual rate of 2.1 percent, or by 88 percent over the period from 1978 to 2020 [1,8], as discussed in Section 2.1.2.2.5.

It is expected that in the year 2030, as in 1978, sector NW will have the highest population of all sectors, 54,756 persons, but will have the slowest rate of growth, 49.4 percent over 52 years. Likewise, annular sector NW five to ten is expected to grow from 36,483 to 54,497, a gain of 49.4 percent. In 2030, the second highest population by sector is expected to be in sector WSW, which will grow by 268.7 percent from 6691 residents in 1978 to 24,669 in 2030.

Within the ten mile radius, the sectors expected to experience the highest growth rate are sectors SW and SSW. They are estimated to grow by more than 1200 percent, from 812 to 13,971 residents, and from 1,434 to 19,127, respectively. Both sectors will show an increase from the expected continued growth of Port St Lucie.

The Fort Pierce area will maintain a significant share of the total population within ten miles of St Lucie Unit 2. However, Port St Lucie will gain in its share of total county residents as absentee lot owners build homes and move to Port St Lucie, as promotion of lot and home sales continues, and as long as Port St Lucie offers more moderately priced housing than traditionally available at beachfront locations.

Port St Lucie is one of the strongest growth areas in St Lucie County. To illustrate, between 1970 and 1978, Fort Pierce grew from 29,721 persons to 33,083, an increase of 11 percent. During the same period, Port St Lucie grew from 330 to 6455 persons, an increase of approximately 1800 percent.

If building permit activities of 1975, 1976 and 1977 were to continue, it is possible that Port St Lucie would reach a population of 36,000 by the year 2000[2].

Within the city limits of Port St Lucie, a proposed development of 2,200 dwelling units, called Midport[9], has been approved under State Development of Regional Impact (DRI) regulations[10,11]. Its estimated population of approximately 5000 people will reside in annular sectors SSW and SW between 3.5 and 5.5 miles of St Lucie Unit 2. It is expected that Midport will be completed and fully occupied by 1983. Therefore, the 1983 population estimates include the Midport project.

Also, the developers of Spanish Lakes and Riverfront have started development of a third mobile home community called Golf Village. The development as planned will add 740 dwelling units to annular sector SW four to five. As in many of the residential developments in this region, many of the homes will be occupied by seasonal visitors rather than residents.

The part of Hutchinson Island which falls within the five mile radius is another area expected to undergo considerable growth. In 1978, there was a total of 1,928 residents; this population is expected to reach 2,678 by 2030, a gain of 39 percent. These residents will probably represent only a fraction of the island's future population since many new dwelling units for seasonal visitors and tourist accommodations will be constructed on this highly valued beachfront property.

In annular sector SE one to two, a project called Sand Dollar Villas is under construction and scheduled for completion in 1980. It will have 203 apartments and 32 townhouses[12]. While it is likely that development will continue to occur in the form of projects such as Sand Dollar Villas, it is impossible to predict the size and location of such projects until they are initiated.

County planning officials have indicated that congestion of the bridges from the mainland to Hutchinson Island could restrict development[13,14]. A bridge has been proposed which would cross the Indian River at SR 712 and link US 1, the Florida Turnpike, and Interstate 95 to Hutchinson Island[13]. An additional river crossing would induce development on the Island. However, it is uncertain if, when, or where another river crossing will be constructed because the waters of the Indian River in this area are part of an aquatic preserve[13].

2.1.2.1.6 Age Distribution

The age distribution of the projected population for the year 2000, within ten miles of St Lucie Unit 2, is presented in Table 2.1-2. In each annular sector, the number of people under 11 years of age; between 12 and 18; and over 18 have been estimated, based on the distribution of these age groups in the United States in 1970[17].

2.1.2.2 Population Between Ten and 50 Miles

Table 2.1-1 and Figure 2.1-8 show the distribution of the estimated 1978 population between ten and 50 miles of St Lucie Unit 2. The estimated 1978 population is 412,714 persons (see Section 6.1.4.2, Methodology) and represents 85.3 percent of the total population within 50 miles of the plant. This population is confined to sectors SSE through NNW since sectors N through SE, beyond the ten mile radius, include only the Atlantic Ocean. The major concentration of population occurs in annular sector SSE 40-50, which includes the city of West Palm Beach. West Palm Beach is the northern limit of the Florida Gold Coast development extending north from Miami through Dade and Broward Counties into Palm Beach County. The 126,615 residents in annular sector SSE 40-50 live on approximately 48 square miles of land (the eastern three quarters of annular sector SSE 40-50 extends over the Atlantic Ocean). Annular sectors S 40-50 and SSE 30-40 have the second and third highest populations, respectively, per annular sector, and reflect that Palm Beach County is more highly developed than any other part of the region. In the 1970 Census, Palm Beach County was one of the nine Standard Metropolitan Statistical Areas (SMSA's) in Florida. Of the total 525,200 residents of Palm Beach County in 1978, 277,881 lived within 50 miles of St Lucie Unit 2.

2.1.2.2.1 Cities and Towns Between Ten and 50 Miles

Table 2.1-3 lists towns, cities, and communities with a 1978 population of more than 5,000 persons (see Figure 2.1-9). There are eight towns with a population of more than 10,000, the largest of which is West Palm Beach, with a 1978 population of 62,616 (see Methodology, Section 6.1.4.2). The second largest is the city of Fort Pierce, with 33,083 persons; the third largest is Riviera Beach in Palm Beach County, with 27,735 persons; and the fourth largest is Vero Beach, seat of government for Indian River County, with 16,800 persons. Of the eight largest towns, five are in the West Palm Beach Urbanized Area (as defined by the US Census[15]). In addition to West Palm Beach and Riviera Beach, the five include North Palm Beach (15,014 persons), Palm Springs (11,300 persons), and Palm Beach Gardens (10,792 persons). Stuart, the largest city in Martin County, has an estimated 1978 population of 10,760.

Of the eight towns with populations between 5,000 and 10,000, four are within the West Palm Beach Urbanized Area. These include the towns of Palm Beach, with 9,952 persons; Lake Park, with 8,652 persons; Greenacres City, with 6,773 persons; and Royal Palm Beach, with 5,598 persons. Pahokee, with an estimated 1978 population of 5,864, is also in Palm Beach County but is located in the northwestern quarter of the county, on the shore of Lake Okeechobee.

There are three other towns with populations between 5,000 and 10,000 persons. These include Gifford, located in Indian River County, with an estimated 1978 population of 9,485; Jupiter in Palm Beach County with 9,156 people; and Port St Lucie, in St Lucie County with 6,465 residents (2).

2.1.2.2.2 Population by Annular Sectors

The most heavily populated annular sectors between ten and 50 miles from St Lucie Unit 2 are those which encompass the cities and towns with the greatest populations as discussed in Section 2.1.2.2.1. The most populous annular sector, SSE 40-50, includes West Palm Beach, Palm Beach Shores, Riviera Beach, and Palm Beach (see Figure 2.1-8).

Immediately to the west of annular sector SSE 40-50 lies the second most populous annular sector, S 40-50, including Greenacres City (6,[illegible]73 persons) and Haverhill (1,004 persons estimated for 1978), as well as numerous large residential developments of up to 7,400 acres[16].

The third most populous annular sector between ten and 50 miles from St Lucie Unit 2 lies north of West Palm Beach on the Atlantic Coast (SSE 30-40). Although its land area is less than half of the 137 square miles which comprise the annular sector, it includes Lake Park, North Palm Beach, Juno Beach, portions of Riviera Beach, Palm Beach Gardens, and the town of Jupiter, all of which are heavily populated. When the above three annular sectors are combined, they comprise 59.6 percent of the total population between ten and 50 miles of the St Lucie Unit 2.

2.1.2.2.3 Population by Annuli

Populations by annuli between ten and 50 miles of St Lucie Unit 2 range in number of residents from the largest, with a total of 211,061 persons (the 40-50 miles annulus), to the smallest, with 51,504 persons (the ten to 20 mile annulus). The annulus between 30 and 40 miles has the second largest population of 83,240, while the annulus between 20 and 30 miles contains 66,909 persons (see Figure 2.1-8).

The 40-50 mile annulus has not only the largest population (211,061) and the greatest overall area (approximately 1,590 square miles, excluding the seven sectors over the Atlantic Ocean), but also the highest population density in the region. The population density of the 40-50 mile annulus is 133 persons per square mile. Ninety-one percent of the population is located on 22 percent of the total annulus area, in sectors SSE and S, which include West Palm Beach and environs.

2.1.2.2.4 Population by Sectors

The most populous sectors between ten and 50 miles of St Lucie Unit 2 are those which cover the West Palm Beach area and the Atlantic Coast. Sectors SSE and S have estimated 1978 populations of 206,199 and 90,040, respectively, and densities of 483 persons per square mile and 183 persons per square mile, respectively. Sector NNW has a population of 51,541, and a density of 109 persons per square mile; sector NW, the next one inland, has a total population of 19,037 and a density of 40 persons per square mile. The five remaining sectors have densities which range from two to 31 persons per square mile.

The sparseness of population in the five interior sectors can be attributed to extensive acreage covered by wetlands and surface water (Lake Okeechobee), inaccessibility to population centers, and the extent of range and cropland.

2.1.2.2.5 Projected Population

Figure 2.1-8 shows the projected residential population between ten and 50 miles of St Lucie Unit 2. Total population between ten and 50 miles is expected to grow by 121.3 percent between 1978 and 2030, or from 412,714 to 913,463. The average annual growth rate for this area would be 2.14 percent for the 52 year period. This rate of growth can be compared to the rate for the State of Florida, which is expected to be 2.1 percent per year from 1978 to 2020[1,8] and 0.76 percent per year for the United States from 1978 to 2025[17]. Florida is presently one of the most rapidly growing states in the US. Between 1970 and 1977, the state grew by 28 percent, a net addition of almost two million people. Ninety percent of this growth was attributed to net migration[1].

2.1.2.2.6 Areas of Development

The principal area of development between ten and 50 miles of St Lucie Unit 2 occurs in Palm Beach County in the sectors including and adjacent to the Atlantic Coast. Major development activity outside of Palm Beach is concentrated in what can be called the "Atlantic Corridor", the five to ten mile area between the Atlantic Ocean and either Interstate 95 or the Florida Turnpike in Martin, St Lucie, Indian River, and southern Brevard Counties.

Land to the west of this region is mostly used for pasture, agricultural production (citrus, sugar cane, and truck farming), or remains undeveloped. Access is limited and population sparse. In a few widely scattered sites, tracts of land have been platted and sold as home sites or proposed for such development. No significant development of any of these projects which lie west of the Atlantic corridor has yet taken place.

Development is focused in the Atlantic corridor for reasons such as the following:

1) Proximity to existing population centers and services;

2) Access to the Atlantic Ocean and Indian River, and the amenities they provide: scenic beauty, sports and recreation, tourist industry potential;

3) Presence of soils suitable for development on the coastal ridge;

4) Zoning and planning policies developed by county and regional agencies which permit development in these areas; and

5) Availability of land suitable for development.

Only three significant clusters of development occur outside the Atlantic corridor between ten and 50 miles of St Lucie Unit 2. Two are on or near the shores of Lake Okeechobee (which covers 400 square miles in sectors SW and WSW between 30 and 50 miles of the plant). On the southeastern shore of the lake in Palm Beach County, the community of Pahokee serves the agricultural community of the western section as well as the sport fishing community using the lake. A few miles north of the lake in Okeechobee County, a regional center has developed at Okeechobee City. The third location where significant development is occurring is Indiantown, in south central Martin County, at the intersection of the St Lucie Canal and the Seaboard Coast Rail Line.

The following is a summary of development trends by county within 50 miles of St Lucie Unit 2.

a) Palm Beach County

The principal area of growth within 50 miles of St Lucie Unit 2 is in the northeastern quadrant of Palm Beach County, which lies south of the plant, at a distance of more than 27 miles. About 40 percent of Palm Beach County falls within 50 miles of St Lucie Unit 2; the total population of this area is expected to increase from 277,881 in 1978 to 617,422 in 2030. This increase represents a growth of 122 percent over the entire period, or 2.3 percent averaged annually. The corridor in Palm Beach County between the Atlantic Ocean and the Florida Turnpike is intensively developed with contiguous towns and cities such as Palm Beach, West Palm Beach, Riviera Beach and Lake Park. Residential development activity in 1977 included a sizable number of dwelling units under construction west of the Turnpike in sectors S and SSW[16]. Development is expected to continue in this area because of strong growth to date and its reputation as a desirable place to live. Many developments include self-contained recreation amenities. The Professional Golfers' Association (PGA) has recently located its headquarters in Palm Beach County[18].

Another area of growth exists in the northwestern quadrant of Palm Beach County where Pahokee is located on the shore of Lake Okeechobee. Pahokee is one of the 15 largest cities and towns within 50 miles of St Lucie Unit 2 (see Table 2.1-3). It has an estimated population for 1978 of 5,864.

b) Martin County

While Palm Beach County has the greatest population, Martin County has the highest rate of growth. Nearly all (75 percent) of Martin County's 1978 population resided between ten and 50 miles of the plant. The remaining residents were within ten miles of St Lucie Unit 2. The 1978 total of 39,359 persons between ten and 50 miles is expected to grow by 139 percent to 94,359 by the year 2030. This represents an average annual growth rate of 2.7 percent. The city of Stuart is the major population center for the county; in 1978, its estimated population of 10,760 represents 20 percent of the total county population of 53,100. Population is expected to grow in and around the city of Stuart and on the barrier beaches in the Atlantic Corridor in Martin County[16].

Indiantown, with an estimated 1978 population of 3,411, is an incorporated area located approximately 26 miles southwest of St Lucie

Unit 2, at the intersection of SR 710 and SR 76. FP&L is presently constructing at the Martin County site two generating units and a 6,600 acre cooling lake west of Indiantown. Two additional units will be constructed there[19].

The western part of Martin County is largely range and cropland, with few permanent residents outside of Indiantown. A project formerly known as "Rotunda", and now called Palm Beach Heights, was proposed for land west of the Turnpike and was platted and sold for home sites. To date, there has been no actual development of these properties, and the wetness of soils is expected to limit the development of many lots which have been sold[20].

c) St Lucie County

St Lucie County extends from the plant site west to the 30 mile radius. Of the County's total estimated population of 76,500 in 1978, approximately one-quarter, or 19,181 persons, are estimated to reside outside the ten mile radius. This number is expected to grow at the rate of 120 percent (or 2.3 percent average annual rate) to a population of 42,226 in 2030.

St Lucie County's major population center is the city of Fort Pierce, with an estimated 1978 population of 33,083, located inside and out of the ten mile radius. While the county as a whole grew 29.4 percent between 1960 and 1970, the city of Fort Pierce grew only 17.7 percent[15]. As Fort Pierce is built up, development is expected to occur within the Atlantic corridor, outside the city limits[21].

In St Lucie County, the only coastal area outside the ten mile radius lies north of the St Lucie Unit 2. Sectors NNW and NW contain more than 85 percent of the 1978 St Lucie County population outside of ten miles. The western portion of St Lucie County is dominated by pasture and croplands.

In 1974, Ashland Oil proposed a refinery and new town for the northwest corner of the county where the Turnpike runs NW-SE[19]. No firm plans or schedules exist for the development of this area.

d) Indian River County

All of Indian River County falls within the ten to 50 mile radius. The county population, estimated at 50,776 in 1978, is expected to grow to 109,270 by 2030[1]. This overall growth of 115 percent represents an annual average growth of 2.2 percent. The principal community in the Atlantic corridor is the county seat, Vero Beach, with an estimated 1978 population of 16,765 persons (one-third of the total county population). Other cities and towns include Gifford, 9,475 persons for 1978; Sebastian, 1,556 persons in 1978; and Indian River Shores, 1,013 persons in 1978. Only one settlement, the Town of Fellsmere, with a 1978 population of 1,056, is located outside the Atlantic corridor. Aside from the community at Fellsmere (NW 30-40), the area west of Interstate 95 is for the most part protected wetlands which are part of the St Johns River Flood Control District.

e) Brevard County

The portion of Brevard County (about 18 percent of total county land area) which lies within the 50 mile radius of the St Lucie Unit 2 has a 1978 population of 3,185. This number, which represents 1.2 percent of the county's total 1978 population is expected to increase by 80 percent, to 6,023 by 2030. Brevard has the slowest expected growth rate of the nine counties included in the 50 mile radius. Major development is Brevard County has taken place at Cape Canaveral, Cocoa Beach, Merrit Island, and Melbourne, all north of the 50 mile radius.

In southern Brevard County, development has occurred along the Indian River and Atlantic Coast. Small communities include Micco, Melbourne Shores, and Floridana. The only incorporated town entirely within the 50 mile radius of St Lucie Unit 2 is Malabar, which in 1970 had a population of 625. The town of Palm Bay lies to the north of Malabar, just outside the 50 mile radius, on the Indian River. However, part of Palm Bay's incorporated area falls within the 50 mile radius. In this portion, a large-scale development called Port Malabar has been proposed. Because of lot sales and promotion, development will be directed to this area, but there is no definitive schedule which could be incorporated into projections made at the present time. In southern Brevard, as in Indian River County, development will be confined to the eastern coastal area because of restrictions imposed in the western region by the St Johns River Flood Control District.

f) Okeechobee County

Located inland of Martin, St Lucie, and Indian River Counties, Okeechobee County accounts for approximately 4.5 percent of the residents between ten and 50 miles of St Lucie Unit 2. About 98 percent of its estimated 1978 population, or 18,629 persons, reside within the ten to 50 mile area. By the year 2030, this number is expected to increase by 130 percent to 42,762. With this rate of growth, averaged annually to 2.5 percent, Okeechobee County ranks second (behind Martin, with a 2.7 percent annual growth rate) in rate of growth of all counties within 50 miles of St Lucie Unit 2. Okeechobee's population is concentrated in and around the county seat of Okeechobee City. The county seat is at the convergence of US 98 and US 441 and SR 70, SR 78 and SR 710, less than five miles north of Lake Okeechobee. This accessibility is expected to ensure its continued growth as a regional center. The city's 1978 population of 4,490 represented about 24 percent of the county total. The adjacent town of Cypress Quarters has a population of approximately 2,176. In 1978, these towns together comprised 35 percent of the total county population. A large scale development has been proposed for sectors W and WNW at the 50 mile radius[23].

g) Glades, Osceola, and Highlands Counties

Three counties on the periphery of the 50 mile study area contribute a total of only 739 persons to the 1978 population between ten and 50 miles of St Lucie Unit 2. In Glades County, on the northwest shore of Lake Okeechobee, a community known as Buckhead Ridge has developed since 1970. Although only 12 percent of Glades County's land area falls within the 50 mile radius, its most significant growth occurs in this location[24,25,26]. The only other settlement of greater size is the county seat of More Haven, which had a 1970 population of 974, an increase of 23.3 percent from 1960[22]. Buckhead Ridge's 566 permanent residents represent approximately ten percent of the total county population for 1978[28].

Osceola County is included in the 50 mile radius in sectors NW and WNW. Approximately three percent of the county's 1,313 square miles are included in the 50 mile radius. There, the small settlement of Yeehaw Junction is estimated to have 119 persons in 1978[29]. The population is expected to increase by 123 percent to 265 in 2030, which is an average annual growth rate of 2.37 percent.

Like Osceola, Highlands County has roughly three percent of its land area within the 50 mile radius. In this area, a small settlement has developed on SR 70[30]. Its 1978 estimated population of 100 is expected to grow by 106 percent, to 206 in 2030. The average annual growth rate is expected to be two percent. Highlands County's predominant growth is expected to continue outside of the 50 mile radius in the vicinity of Sebring, Avon Park and Lake Placid, in the central part of the county[31,32,33]. All three interior counties reflect the low levels of development taking place in Florida's central regions, which are not adjacent to the Atlantic or Gulf coasts.

2.1.2.2.7 Projected Growth Rates Between Ten and 50 Miles

The total population between ten and 50 miles is expected to grow by 121.3 percent from an estimated 412,714 persons in 1978 to 913,463 in 2030. The area of greatest growth between ten and 50 miles of St Lucie Unit 2 is in Palm Beach County, in the three annular sectors surrounding West Palm Beach. Annular sector S 40-50 is expected to experience the highest rate of growth, with its 1978 population growing by 183.4 percent from 65,250 to 176,411 in 2030. Annular sectors SSE 30-40 and S 30-40 are each expected to grow by 170 percent over the entire 52 year period. In contrast, a relatively low rate of growth is expected for annular sector SSE 40-50 which contains the city of West Palm Beach. This can be attributed to the shift in development from heavily urbanized areas to vacant land in the north and west as well as to the recognized tendency of heavily populated areas to exhibit low growth rates while surrounding areas with low densities undergo high rates of growth[34].

Another area showing relatively intensive growth is located south and southwest of the plant between ten and 30 miles. This includes Martin County's Atlantic corridor and the city of Stuart. Because the method for estimating growth by annular sector is based on projected growth for each county, the annular sectors reflect the growth rates for the county occupying the major portion of the sector.

The fastest growing annulus is expected to be between 30 to 40 miles of St Lucie Unit 2. This band is influenced by the high rates of growth expected for south and southeast sectors located just north of West Palm Beach. The greatest growth by sector is expected to occur in sector S which includes the expanding area west of the Turnpike in Palm Beach County as well as the area surrounding Stuart in Martin County.

2.1.2.2.8 Age Distribution

The age distribution of the projected population for the year 2000, between ten and 50 miles of St Lucie Unit 2, is presented in Table 2.1-4. In each annular sector, the numbers of persons under 12 between 12 and 18, and over 18 were estimated based on the distribution of these age groups in the United States in 1970[17].

2.1.2.3 Transient Population

Transient population within 30 miles of St Lucie is estimated to be 74,368 persons in 1978. This figure is based on estimates in each annular sector of peak daily tourists and seasonal visitors. These estimates are presented in Table 2.1-5 and in Figures 2.1-10 and 2.1-11, and represent both daily and seasonal variations in the movement of persons or their temporary redistribution within the 30 mile radius.

As in much of Florida, this region experiences significant fluctuations in population as thousands come to the area for the winter season (generally from Christmas/New Year to Easter) or for summer or winter vacation. Many attractions and events are held throughout the year which draw thousands of people. Although few in number, major industries and colleges draw many workers and students every day. The population from each of these sources has been estimated, and projected for the required years through 2030. Estimates and projections for these three components are presented in Tables 2.1-6, -7 and -8, and discussed in the sections which follow.

Transient population resulting from transportation by road, rail, waterway, and air is estimated by calculating the average daily passengers at locations where vehicles or passenger counts have been made. To avoid double counting, passenger estimates have not been incorporated into transient totals by annular sector.

Throughout the region, Atlantic Coast beaches are enjoyed for their scenic beauty and recreation potential. Both St Lucie and Martin Counties provide public access strips to the beaches, and State sovereignty guarantees public access to all lands seaward of the mean high water line[35].

Because of the lack of comprehensive data concerning both the use of the beaches and the number of users, estimates were not included in peak daily transient totals. The only data available on beach usage is as follows:

Best estimates available from St Lucie County[36] indicate that average daily beach usage was 656 persons at four guarded beaches on Hutchinson Island. Between October 1, 1977 and September 30, 1978, a cumulative total of approximately 239,000 persons attended all four beaches in sector NNW. If beach usage were to grow at the same rate of growth as resident and seasonal population, average daily beach usage would reach 1,503 by the year 2030.

In Martin County, there were two guarded beaches within ten miles of St Lucie Unit 2 (in sector SSE). Average daily usage for both was estimated at 2,340 persons in 1978[27]. This number could be expected to reach 5,362 by 2030. Attendance is the greatest in the summer. It was estimated that as many as 2,000 persons attend Jensen Beach, at the junction of 42nd Street (from the Jensen Beach Bridge) and SR A1A on holidays such as Memorial Day, Fourth of July and Labor Day[37].

2.1.2.3.1 Tourists and Seasonal Visitors

The total of tourists and seasonal visitors within ten miles of St Lucie Unit 2, in 1978, is estimated to be 28,179 (see Table 2.1-5). This figure includes persons staying in tourist accommodations, campgrounds, dwelling units occupied by seasonal visitors, and visitors staying with friends and relatives.

Inside the ten mile radius, the following annular sectors had the highest transient population totals in 1978:

a) NW, zero to ten, had an estimated 7,804 tourists

b) SSE, zero to ten, had an estimated 11,572 tourists

These numbers reflect the fact that both sectors have the greatest number of tourist accommodations as compared with the other annular sectors. Sector SSE, for instance, contains three campgrounds on Hutchinson Island: Venture Out; Windmill Village and Holiday Out - St Lucie. Sector NW has a high resident population which presumably houses out-of-town visitors.

Between ten and 30 miles of St Lucie Unit 2, the greatest number of tourists in 1978 were located in sectors NNW, with an estimated 19,460 visitors, and SSE, with an estimated 11,755 visitors. These numbers reflect the fact that between ten and 30 miles of St Lucie Unit 2, these sectors afforded the largest number of tourist accommodations, such as motels, campgrounds and permanent residents' homes. Estimates for the 1978 tourist population and projects through 2030 are presented in Table 2.1-5.

2.1.2.3.2 Attractions and Events

Many attractions and events draw large crowds in this part of Florida; they include high school football games, major league exhibition games, county fairs, jai alai frontons and a dog track, tournaments, rodeos, and festivals. Attendance at events within 50 miles of St Lucie Unit 2 is presented in Table 2.1-6 for the years 1978 to 2030.

Within the ten mile radius, peak daily attendance in 1978 occurred at two walk through events. Each lasts two days, and has a total estimated attendance of 40,000 persons. The Art-on-the-Green Festival brought 20,000 persons per day to the Indian River Memorial Park in January of 1978[39]. In March, 20,000 persons walked through the Auto Show, held at the St Lucie County Civic Center in Fort Pierce[38]. The third largest event was the Jensen Beach Fireworks, held on the Jensen Beach Causeway each Fourth of July[40]. Other attractions include the high school football games held at Lawnwood Stadium in Fort Pierce[50], and annual events such as the Sailfish Regatta (a hydroplane event on the St Lucie River)[41], the October Art Festival in Jensen Beach in March[40], the Sandy Shoes Festival (a week of events with a country and western theme) in Fort Pierce in January[51], the Sea Turtle Watch at Jensen Beach on Hutchinson Island in June[40], and Leif Erikson Day in Jensen Beach in October[40].

In February of 1978, a total of 20,800 persons attended the week long St Lucie County Fair[46], which is held at the County Fairgrounds in Fort Pierce, located approximately 12 miles from St Lucie Unit 2. The Martin County Fair[47], held at the fairgrounds in Stuart, had a peak daily attendance of 7,559 and a total attendance of 27,000 persons. Other attractions and events include the football games at Vero Beach High School Stadium and at Martin County High School, exhibition games by the Los Angeles Dodgers at Dodgertown Sports Complex in Vero Beach, and attendance at jai alai games in Fort Pierce.

Between 30 and 50 miles from St Lucie Unit 2, there are several attractions and events held annually. The highest daily attendance at any event (in fact, for the entire 50 mile radius) took place at the South Florida Fair, at the Palm Beach County Fairgrounds. In 1978, 470,752 people attended the Fair, with 88,000 persons on the peak day[52]. Other events, such as fireworks, football games, and festivals, may draw from 1,000 to 10,000 persons on a single day. These are listed in Table 2.1-6, Part C, and shown on Figure 2.1-12.

2.1.2.3.3 Major Industrial Employers

Most industrial employers within the 30 mile radius have fewer than 50 workers each and are involved in citrus growing, packing and processing; construction materials; or marine industries. Major employers are included in Table 2.1-7 and in Figure 2.1-13. Three employers in the 50 mile radius employ 500 or more workers per shift; none is within ten miles of St Lucie Unit 2.

Between the 20 and 30 mile radii, two employers are considered significant. The first, Piper Aircraft, at the Vero Beach Airport in Indian River County in sector NNW, has a total employment of 2,887 persons and a peak daily shift of 2,000 persons in 1978[45]. The second, Grumman Aerospace, in 1978 employed 731 workers at its Stuart plant near the Martin County Airport[48]. The peak daily shift is 700 workers. Grumman is located in sector SW, between ten and 20 miles of St Lucie Unit 2.

Between the 30 and 50 mile radii, Pratt & Whitney Aircraft is located on SR 710 in Palm Beach County. Total employment is 7,261 at the plant, with a peak shift of 6,094 persons in 1978[52].

2.1.2.3.4 Enrollment at Major Colleges

Two major colleges are located inside the 30 mile radius. Estimates and projections of their enrollments are presented in Table 2.1-7. In annular sector SSE five to ten, Florida Institute of Technology-Jensen Beach Campus[42] has a peak enrollment of 900 students with dormitories accomdating approximately 300 students. Enrollment ranges from 200 in the summer trimester to 800 in the fall trimester and 900 in the winter session. The Jensen Beach Campus has a capacity for 1,200 students, which administrators expect to be reached by 1982[42].

Indian River Community College (IRCC)[44] has a total enrollment of 16,000 students on four campuses within the 50 mile radius. The main campus is located in Fort Pierce, in sector NW between the ten and 20 mile radii. Seventy percent of the students, who come from St Lucie, Martin, Indian River and Okeechobee Counties, attend classes in Fort Pierce. Peak daily attendance in 1978 is an estimated 1,500 students. Between ten and 30 miles of St Lucie Unit 2, there are campuses in Vero Beach and Stuart. In Stuart (SSW 10-20), approximately 1,280 students, or a peak daily estimate of 171, attended class in 1978, while in Vero Beach, the total is 3,200 students, or an estimated peak daily attendance of 428. Only two percent of the students attended class on the Okeechobee Campus, located outside the 30 mile radius with peak daily enrollment estimated at 43 students.

Projections for IRCC, included in Table 2.1-7, incorporate the ten percent annual rate of growth expected through 1983 (expansion of facilities underway in 1978); in subsequent years, it is assumed that enrollment would grow at an annual average rate of 2.4 percent, the rate for the 50 mile radius area.

2.1.2.3.5 Transporation Sources of Transient Population

The transient population resulting from the four basic modes of transportation is estimated by calculating the average daily number of passengers at locations on roads, waterways, rails, and airports where vehicles, vessels or passengers are counted. Since there is no way to know which or how many annular sectors people have traveled through and to avoid counting people as both residents and as passengers, transient population resulting from transporation has not been incorporated into the transient population totals by annular sector (Section 2.1.2.3). Estimates and projections of passengers for 1978 through 2030 are presented in Tables 2.1-8, 2.1-9 and 2.1-10; estimates for 1978 also appear in Figures 2.1-14 and 2.1-15.

2.1.2.3.5.1 Highway Traffic

Within ten miles of St Lucie Unit 2, highways and roads are a major source of transient population. SR A1A, SR 707, and US 1 are major north-south arterials. SR A1A passes within approximately 1000 feet of St Lucie

Unit 2 on Hutchinson Island. SR 707 along the mainland coast is less than two miles from the St Lucie site at its nearest point. US 1 is not only a major arterial north and south, but also a focus of commercial activity in St Lucie County. At its closest point, US 1 is approximately 4.8 miles from St Lucie Unit 2.

At or near the ten mile radius, four major river crossings concentrate traffic over the St Lucie and Indian Rivers (Figure 2.1-14). These include the South Bridge, Jensen Beach Bridge and Stuart Causeway from the mainland to Hutchinson Island and the Roosevelt Bridge on US 1 in Stuart. In February and March, traffic congestion in the Fort Pierce area and at the access points to Hutchinson Island is a severe problem; in fact, it is considered a limit to growth[14]. Recommendations for an additional bridge crossing the Indian River have been made for the northern end of Hutchinson Island, within Fort Pierce City limits or in adjacent areas[14]. Traffic from the larger region comes within ten miles of St Lucie Unit 2 on Florida's Turnpike, Interstate 91. At its closest point, the Florida Turnpike is approximately 7.5 miles from St Lucie Unit 2. At Interchange 56, in sector NW at the ten mile radius, the southbound average daily traffic (ADT) count was 5,920 vehicles[55] in 1977. Northbound traffic on the Turnpike in sector SSW had an ADT count of 9,980 vehicles. Passenger estimates for major state roads and interstates within ten miles of St Lucie Unit 2 in 1978 are displayed in Table 2.1-8 and in Figures 2.1-14 and 2.1-15.

Between ten and 30 miles, in sector NW, Interstate 95 (I-95) terminates approximately one mile east of the Florida Turnpike at SR 70. At the 30 mile radius, southbound traffic on I-95 had an ADT count in 1977 of 3,896, while the Turnpike, in sector WNW at the 30 mile radius, had a southbound ADT count of 5,920. To the south, in sector SSE, the northbound traffic on the Florida Turnpike had an ADT count of 10,365.

In 1978, I-95 was approximately 85 percent complete from the Georgia state line to South Miami[54]. The 55 miles of I-95 remaining to be built are located in St Lucie, Martin and Palm Beach Counties. In St Lucie County, an eight mile section between SR 614 and SR 70 is under construction and scheduled to open in 1979. The remaining 47 miles south of SR 70 to completed sections in Palm Beach County are in the planning and/or design stages. In St Lucie County, the proposed corridor is located west of the Turnpike. In Martin County, serveral alternate routes have been considered at public hearings[55], but as of early 1979 no decision had been reached.

Average daily traffic counts for interstate highways have been converted into average daily passengers (2.5 passengers per vehicle) in Table 2.1-8 and on Figures 2.1-14 and 2.1-15. (See Methodology, Section 6.1.4.2).

2.1.2.3.5.2 Waterway Traffic

The potential total of average daily passengers on waterways within ten miles of St Lucie Unit 2 in 1978 is 1,999 persons. This total is derived from available vessel or passenger counts for commercial and pleasure craft (see Table 2.1-10). As in the case of highways, the figure represents an approximation of potential passengers because there is no way to know in which or through how many annular sectors persons on the waterways may have traveled.

The St Lucie site on Hutchinson Island is bounded to the west by the Indian River, in which is located the Intracoastal Waterway, a major north-south route for commercial and pleasure craft along the eastern seaboard. Between Jacksonville and Miami, the US Army Corps of Engineers estimated a total of 518,841 excursion passengers in 1976[56], or an estimated average daily passenger count in 1978 of 1,490 passengers. This number is for the total length of the Intracoastal Waterway section between Jacksonville and Miami and therefore is a conservative estimate of the actual number of passengers within one mile of St Lucie Unit 2. There is no way to estimate how many passengers actually pass within one mile of the site from the data available.

Located in sector NW at the ten mile radius, Fort Pierce Harbor is the only shipping port within 30 miles of St Lucie Unit 2. The harbor is reached from the Atlantic Ocean shipping lanes via Fort Pierce Inlet, at the northern end of Hutchinson Island. Fort Pierce Harbor is a US Army Corps of Engineers project; in 1976, the Corps recorded a total of 7,800 passengers on ships entering the harbor[56].

The Florida peninsula is transversed from Fort Myers to Stuart by the Okeechobee Waterway, a cross-land lock system providing access from the Gulf of Mexico to the Atlantic Ocean and Intracoastal Waterway. From September 1977 to September 1978, 9,671 vessels used the Waterway[57]. These vessels were pleasure craft, cargo ships, and shrimpers under eight foot draft (maximum draft on Lake Okeechobee in 1978). The Waterway runs from Fort Myers Harbor to Lake Okeechobee. At Port Mayaca in Martin County, the Waterway enters the St Lucie Canal. Heading north and east through Indiantown, the Canal connects with the South Fork of the St Lucie River in Stuart. This eastern terminus of the Waterway lies within the ten mile radius in sectors S and SSE. In 1978, the average daily number of passengers on ships going through the locks was estimated to be 108 persons. Within the ten mile radius, in sectors NW, S and SSE, five drawbridges must be opened for large vessels on the St Lucie and Indian Rivers. In 1978, bridge openings represent an average daily estimate of 379 passengers. These passenger estimates supplement the Intracoastal Waterway data[56] which include only commercial vessels. Although there are no data available on the numbers of small craft passing under the bridges, it is likely that those passengers are local residents or transient population accounted for in estimates of resident and seasonal population. Estimates and projections of waterborne passengers are presented in Table 2.1-10. Figure 2.1-14 shows estimates for 1978 and the locations where passenger and vessel counts were taken.

2.1.2.3.5.3 Rail Passengers

Within ten miles of St Lucie Unit 2, the Florida East Coast Rail Line passes at a distance of approximately two miles from St Lucie Unit 2. It carries no passengers[58]. To the southwest, Amtrak trains on the Seaboard Coast Line carried a total of 135,336 passengers between October 1, 1976 to September 30, 1977. At its closest point, the Seaboard Coast Line is approximately 26 miles from St Lucie Unit 2. Peak daily capacity, which means all seats available on all six trains on the line, was 2,474 in August, 1978[58]. As indicated in Table 2.1-9 and Figure 2.1-14, the Seaboard Coast Line, which passes through the 30, 40 and 50 mile annuli, had a daily average of 389 passengers in 1978 between Sebring, Florida and West Palm Beach. A cutback in the number of passenger trains is expected to reduce passenger totals after 1978[59].

2.1.2.3.5.4 Airport Passengers

No regularly scheduled airline passenger service was available at any of the airports within 30 miles of St Lucie Unit 2 in 1978. Although no airports exist within the ten mile radius, both St Lucie and Martin Counties have airports located between the ten and 20 mile radii. The St Lucie County Airport is located north of the city of Fort Pierce in sector NW. St Lucie is a landing rights airport with complete US Customs facilities. In 1979, a small commuter airline known as Golden South expects to begin operation with five round trip flights to West Palm Beach, Melbourne, and Orlando. Longer range plans (1982-1985) include expansion of the runway to accommodate DC-9's and improvements of the tower to meet FAA Standards[60]. In developing scheduled passenger service, St Lucie County Airport has the advantages of sufficient land area for runway expansion and US Custom Service facilities for non-US destinations in the Bahamas or the Caribbean.

The Stuart/Martin County Airport is located south of Stuart in annular sector S ten to 20. As of 1978, its use was limited primarily to test flights for Grumman Aerospace. No plans exist for expansion of structures or facilities.

Between 20 and 30 miles of St Lucie Unit 2, in Indian River County, the Vero Beach Municipal Airport will resume scheduled passenger service in 1979. Eastern Airlines discontinued its service into Vero Beach in 1973. Allegheny Commuter Service will offer round trip service for 150 passengers daily between Vero Beach and Orlando. Allegheny has found a good frequency/small aircraft type of service a success in other parts of the US, and expects strong growth here[61,62].

The West Palm Beach International Airport is located in sector SSE, inside the 50 mile radius (Figure 2.1-14). In 1977, a total of 1,603,971 arriving and departing passengers used the airport. In 1978, the average daily number of passengers is estimated to be 4,878. Although the number of landings grows at a rate of only two percent per year (see Section 2.2), the use of larger aircraft accommodates the increasing demand for seats. It is expected that at least 4,474,000 passengers will use the West Palm Beach International Airport in 1990[63]. Plans are underway for construction of new terminal, runway, and road facilities. In addition to passengers, airport officials estimated that in 1978 there were 1,800 workers at the airport on a peak day, and that passengers were accompanied on the average by two persons each prior to departure and upon arrival. If passengers, workers and persons accompanying passengers are totalled for 1978, the average daily number of persons at the West Palm Beach International Airport for 1978 would be 6,992. Estimates and projections of average daily passengers are included in Table 2.1-9.

2.1.3 USES OF ADJACENT LANDS AND WATERS

2.1.3.1 Existing Land Uses on Applicant's Property

The St Lucie site boundaries, exclusion area boundary, and station perimeter, are shown in Figures 2.1-3 and 2.1-5. A map showing existing land uses on this property is given in Figure 2.2-1. Acreages of each category of land use within the property boundaries are given in Table 2.2-1.

Table 4.1-1 lists the various uses and the respective acreages required for the St Lucie site. A detailed discussion of the site area breakdown is given in Section 4.1.

2.1.3.2 Land Uses Within The Exclusion Area

The exclusion area falls within FP&L property boundaries, and encompasses the area within a one mile radius of the plant (See Figure 2.1-3). Apart from the utility facility itself, the only other principal land uses/land cover within the exclusion area are SR AlA, undeveloped mangrove, sandy beaches and dirt trails along the eastern coast of Hutchinson Island.

2.1.3.3 Future Land Use on the Applicant's Property

There are no proposed land uses within the applicant's property boundaries other than the structures and facilities related to St Lucie Unit 2. Apart from the three acres required for the discharge canal extension and head-wall, no disturbance to existing land is expected. Power generated by St Lucie Unit 2 will be transmitted by existing switchyard and transmission lines constructed for St Lucie Unit 1. Therefore, land use changes on the applicant's property will be minimal.

2.1.3.4 Nearest Residences and Agricultural Activities

Table 2.1-11 gives the location of the nearest cow, goat, meat animal, vegetable garden (greater than 500 square feet in area), and residence found within five miles of St Lucie Unit 2. The location of these items is given by angular sector. The following is a discussion of this Table[66,67,68].

- The nearest milk cows are located outside the five mile radius, 14 miles W of the site. These milk cows are found in a dairy operation close to the Martin County line. The dairy is one of four in St Lucie County.

- The nearest milk goat is located 2.2 miles SW from the site. It is also the nearest grazing animal to the plant.

- The nearest meat animal is located 3.2 miles W of St Lucie Unit 2.

- The ground survey showed the nearest vegetable garden of 500 square feet or greater to be located 1.9 miles WSW of the facility.

- The nearest residence lies 1.9 miles WSW of the plant site.

2.1.3.5 Existing Land Uses Within Five Miles of St Lucie Unit 2

Table 2.1-12 lists each land use found within five miles of St Lucie Unit 2 with the acreage involved for each category. Figure 2.1-16 is a map showing the distribution of these land uses(69-72). The site survey and land use classification methodologies are discussed in Section 6.1.4.2.1.

A detailed discussion of existing land uses within five miles of St Lucie Unit 2 is given below.

2.1.3.5.1 Land Use/Land Cover by USGS Categories

a) Residential

The residential category of land use includes single family units, multiple family units, group quarters, mobile home parks, and transient lodgings, (motels and hotels). Permanent residents live, for the most part, in single family units consisting of free standing houses and mobile homes. Transient accommodations include residential units which are rented out, motels, hotels and individual housing units which are visited by friends or relatives.

Housing developments on the mainland are clustered along US Highway 1 (US 1) and SR 707 (along the western coast of Indian River). Housing facilities on Hutchinson Island are located at the shoreline and are, for the most part, transient accommodations. These residential units are used by seasonal visitors throughout the year and include motel rooms, condominiums and mobile home park facilities. Residential developments within five miles of St Lucie Unit 2 are discussed below. See Figure 2.1-7 for their location.

Mainland Residential Units

Indian River Estates, located between three and five miles of St Lucie Unit 2, east of US 1, and just south of Fort Pierce, is a single family housing development designed primarily for permanent residents(73). Althouth streets and plots were laid out for this development many years ago, only roughly 40 percent of the land within Indian River Estates was occupied in early 1978.

Collins Park Estates, just west of Indian River Estates, occupies much less land area than does Indian River Estates, but is more densely settled. Most of the residents are permanent(74). Taken together, these developments contain more than 500 dwelling units (Section 2.1.2).

Spanish Lakes is a mobile home community east of US 1 and contains 1,387 lots(75). Although most of the occupants are permanent residents, a significant number of dwelling units are owned or occupied by seasonal visitors. West of Spanish Lakes and US 1 is a mobile home project known as Riverfront. A small portion of this development extends into the area within five miles of St Lucie Unit 2. Like Spanish Lakes, it accommodates both permanent and transient residents.

Along US 1, there are a number of individual dwelling units which are scattered between, adjacent to, or atop commercial establishments. These residential units are used by both permanent residents and seasonal visitors.

Paralleling SR 707 is a strip of individual houses on the shore of the Indian River[76]. Typically, these houses sit on lots which extend back from the shoreline approximately 1000 ft. Most of the people residing in this area are permanent residents. The area is primarily low density and includes the settlements of Ankona, Walton, and Eden.

There are a few isolated houses in the largely undeveloped area between the Florida East Coast Railroad and the housing developments adjacent to US 1. These are also predominantly owned and occupied by permanent residents. The multiple housing units built on the mainland are primarily located alongside US 1.

Hutchinson Island Residential Units

In February 1978, most of the residential units on Hutchinson Island were concentrated in an area four to five miles from St Lucie Unit 2. The principal residential developments on the Island are described below.

Extending into the Indian River is a large, densely populated, mobile home park known as Nettles Island. It has 1588 lots (see Section 2.1.2.1.1)[75]. Many of the lots are used by seasonal visitors. Across from Nettles Island on the ocean are three lodgings: Hutchinson Island Inn (21 rooms), Sheraton Resort Inn (122 rooms) and Oceana (126 condominiums)[77-79].

Under construction are a housing development called Sand Dollar Villas and an expansion of Oceana. Sand Dollar Villas is 1.4 miles from the plant site and will contain 203 apartments and 32 townhouses on the ocean. It is expected to attract seasonal visitors. Sand Dollar Villas is scheduled for completion in 1980[80]. The condominium development known as Oceana is currently being expanded to add another 160 condominiums. This expansion is scheduled for completion by December, 1979[79].

b) Commercial and Services

The commercial and service category includes areas used for the sale of products and services as well as institutions such as schools, medical centers and churches. A total of 28 acres within five miles of St Lucie Unit 2 fall within this category.

Commercial

Of the total area under consideration, only 22 acres consist of commercial and service establishments. Most of these facilities, such as drycleaners and supermarkets, serve local residents. There are two shopping centers within five miles of St Lucie Unit 2, located on US 1. Most other commercial establishments are related to the automotive industry (gas stations, used car lots, mechanic's shops) or tourists.

There are few commercial and service establishments on Hutchinson Island. For the most part, they are specialized facilities such as beauty shops, and bait and tackle shops. As a result, people on the island have to cross over to the mainland for most supplies and services required.

The principal commercial centers serving the area are Fort Pierce and Stuart. A smaller commercial center is located in Jensen Beach. All three centers are located outside the five mile radius.

Institutional - Schools, Medical Facilities, Churches

The classification of commercial and services, includes institutional land uses such as schools and hospitals. There are no schools located within five miles of St Lucie Unit 2. The nearest school, White City Elementary School, is about six miles WNW from St Lucie Unit 2. There is one medical facility, approximately five miles WSW from the plant site, called the Port St Lucie Medical Center. Several churches fall within the five mile radius and include the Kingdom Hall of the Jehovah's Witnesses and the New Testament Baptist Church. Roughly six acres fall within this category.

c) Industrial

The General Development Corporation (GDC) owns approximately 32 acres, used as a small industrial park located off US 1, roughly four and a half miles WSW of the plant. One of the tenants is FP&L, one is a surgical and dental equipment firm and one is a plumbing supplier. The 18 acres leased by FP&L is classified as utility use. The remaining 14 acres, leased by other firms is classified as light industrial.

d) Transportation, Communications, and Utilities

This category encompasses major transportation routes, such as highways and railways, and communications and utilities areas, "such as those involved in processing, treatment, and transportation of water, gas, oil, and electricity[69] ..."

Within five miles of St Lucie Unit 2, 964 acres can be classified as transportation, communications, or utility use, representing about two percent of the total acreage. Nearly three quarters of this (704 acres) is given over to utility structures and facilities.. All of these are owned and operated by FP&L. Most of this acreage supports St Lucie Units 1 and 2, and related structures. However, as mentioned above, FP&L leases an 18 acre storage and maintenance yard in GDC's Industrial Park.

Transportation

The principal transportation corridors on the mainland are US 1, SR 707, and the Florida East Coast Railroad. US 1 is a four lane divided highway which runs from north to south. SR 707 is a two lane road which parallels the Indian River. The Florida East Coast Railroad is a two track installation for most of its length, except for a section between Ankona and a point approximately 1.3 miles south of Weatherbee Road, where it narrows to a single track. Secondary transportation routes on the mainland include Walton Road (two lane), which runs due west from Walton; Weatherbee Road, (two lane) which runs due west from White City Station; and Route 712, also known as White City Road (two lane), which also runs east to west (Figure 2.1-2).

The only major paved road on Hutchinson Island is SR A1A. It has a width of two to three lanes and transects the entire length of the island.

Communications

With the exception of an underground telephone line which transects the western rim of the five mile area, there are no communications areas within five miles of St Lucie Unit 2.

There are no major pipelines located within five miles of St Lucie Unit 2.

Utilities

Roughly 704 acres fall within the utilities category. Of this total, approximately 300 acres on Hutchinson Island are committed to FP&L's Units 1 and 2 and their related structures. Roughly 386 acres accommodate the transmission lines which extend from the plant site to the circumference of the area within five miles. For most of its length, the transmission line right of way is 660 feet in width; however, for a short distance immediately adjacent to the Indian River, the width is 1,200 feet[81]. The remaining 18 acres support a utility storage area within the GDC Industrial Park.

e) Urban or Built-Up Land

Included in this category are miscellaneous urban land uses such as cemeteries, urban parks, undeveloped urban land, and recreational facilities. Approximately 235 acres (or less than 1/2 percent) have been classified as urban or built-up land. Forty-seven of these acres comprise both a cemetery off SR 707, and pockets of undeveloped urban land contingent to US 1. A total of 188 acres are given over to both public and private recreational facilities. The private facilities consist of the golf course within the Spanish Lakes compound and the Tu Bahd Saddle Club. The public establishments are the southern end of the Savannahs Recreational Area (a park in the NW quadrant, owned by the City of Fort Pierce and used for picnicking, boating and camping) and public picnicking and beach facilities on

Hutchinson Island. Recreational beach usage is discussed in Section 2.1.3.9.2.

f) Agricultural Land

Approximately 541 acres of agricultural land (or less than one percent) fall within five miles of St Lucie Unit 2. Most of this land supports citrus groves. In 1976 - 1977, 73,912 acres were in citrus production in St Lucie County[113]. Several nurseries comprise part of the agricultural acreage and produce ornamentals for local use.

g) Forest Land and Wetlands

Approximately 16 percent of the area under consideration can be identified as pine flatwood forest/fresh water marsh. This land cover consists of a mixture of pine, sawgrass marsh, and palmetto. The soils underlying this area are nearly level, poorly drained, sandy, and belong to the Myakka-Immokalee-Basinger Association[71]. Much of the undeveloped land between the Florida East Coast Railroad and US 1 is marshy, and supports a scattering of pine trees. The ridge along SR 707 has drier soils and supports a denser forest canopy consisting mostly of pines[82]. The forest within five miles of St Lucie Unit 2 is not commercially logged[83].

The other principal vegetation community within five miles of St Lucie Unit 2 is the mangrove community located on Hutchinson Island. For a discussion of this community, see Section 2.2.1.

h) Water

Most of the area within five miles of St Lucie Unit 2 is covered with water, and accounts for more than two-thirds of the total area; most of this consists of the Atlantic Ocean. One-third is a section of the Indian River, and the remainder is mainland water bodies. The Indian River is a brackish tidal lagoon. Most of the water on the mainland is concentrated in a string of lakes running from north to south at the eastern edge of the Savannahs. The boundaries of these lakes vacillate with seasonal flooding and often merge with the surrounding marsh. The rest of the water is concentrated in small man made ponds and canals located towards the western boundary of the five mile perimeter.

i) Barren Land

The classification system considers barren land as land which has a limited ability to support life. Beaches are an example.

There are three types of barren land within five miles of St Lucie Unit 2. The first type is located at the site of the sand mining operation, just west of the Florida East Coast Railroad tracks and on either side of Weatherbee Road. Roughly 195 acres serve this extraction operation.

The second type of barren land is found along the Atlantic Coast of Hutchinson Island in the form of beaches. Almost 100 acres of beaches occur within five miles of St Lucie Unit 2.

The third type of barren land is found within the so-called transitional areas. "The Transitional Areas category is intended for those areas which are in transition from one land use activity to another[69]." There are three transitional areas within five miles of St Lucie Unit 2. Two of these are located north of Weatherbee Road and appear to have once supported agricultural activity. The third is located near the southern boundary of the five mile circumference. It contains land which has been cleared and drained for a commercial/residential development known as "Midport"[57].

2.1.3.6 Future Land Uses Within Five Miles of St Lucie Unit 2

To determine future land uses within five miles of St Lucie Unit 2, the St Lucie County Growth Management Plan (The Plan) and other critical planning documents, such as The Plan for Hutchinson Island, were examined[84,86]. In addition, projects under construction or in the process of obtaining permits were considered, as well as growth trends in St Lucie County, and local site suitability characteristics. Figures 2.1-17 and 2.1-18 present the proposed land uses.

The Plan states, "After adopting a plan, local governments and their agencies may not issue building permits, approve zoning changes or subdivision requests, undertake public development projects or approve development actions that are inconsistent with the plan for the area. In addition, the adoption or amendment of land development regulations (e.g., zoning, subdivision regulations) shall be consistent with the adopted comprehensive plan or element thereof"[84].

Anticipated future land uses, by USGS land use categories, are discussed below:

Residential

The greatest increase in land use is expected to occur in residential development. Projected population increases suggest that housing construction activity will be necessary to accommodate population growth. (See Tables 2.1-1 and 2.1-5).

Most of the land area within five miles of St Lucie Unit 2 is undeveloped pine flatwood/fresh water marsh. It is anticipated that with the projected increase in population, much of this land will be cleared and drained to accommodate new dwelling units.

In the following discussion of future residential development, separate consideration is given to the mainland and to Hutchinson Island.

a) Future Residential Development on the Mainland

According to The Plan, land abutting the eastern right of way of US 1, south of General Development Corporation's (GDC) Industrial Park, will be set aside for medium and low density residential use. It is expected that those areas designated for residential development by The Plan will support dwelling units in the future. In addition, residential development is anticipated in other areas.

Most of the undeveloped land extending from US 1 to the western border of the Florida East Coast Railroad right of way is designated in The Plan for Agricultural Use. In practice, however, portions of this "agricultural" land have already been committed for residential use.

Golf Village, for example, is an approved project of 740 mobile home units which will be constructed by the managers of Spanish Lakes and Riverfront[75]. It will be located south of GDC's Industrial Park and east of US 1.

Another example of the pressure being placed on "agricultural" land for residential use is the project known as Midport. Midport is located north and south of Walton Road and east of US 1 (see Section 2.1.2.1.5). It will introduce 2,201 dwelling units which will be both single and multiple family units[87]. Much of the Midport development will fall within the five mile area, although it is difficult to specify exactly how many residential units will be built within five miles of St Lucie Unit 2. The Midport Project has been issued a DRI (Development of Regional Impact) permit[87]. The locations of both Golf Village and Midport are shown on Figure 2.1-7.

b) Future Residential Development on Hutchinson Island

That portion of Hutchinson Island which falls within the five mile radius is expected to experience considerable development. Specifically, the 1978 estimated population of 1,928 is expected to grow to 2,678 by the year 2030 (see Table 2.1-1). These projections reflect the fact that most of the Atlantic Coast of Hutchinson Island is undeveloped, and the demand for beach front property is growing. In recognition of this, The Plan has designated most of the land area within five miles of St Lucie Unit 2 as low or medium density residential.

However, there are some considerations which may affect the rate at which demand for Hutchinson Island property will increase. For example, there are no fresh water wells on Hutchinson Island; therefore, all potable water has to be piped in from the mainland. In the past, the city of Fort Pierce has supplied potable water to the Island. However, at this time, the distribution system supplying the island has reached its capacity. Until this system is expanded, development on the island will be hampered[88].

In general, it is anticipated that residential development within five miles of St Lucie Unit 2 will consist of a mixture of single family and multiple family units. It is also expected that these units will house both permanent residents and seasonal visitors.

Commercial and Services

a) Commercial

Commercial establishments on the mainland are concentrated along US 1. It is expected that there will be an increase in commercial land uses in conjunction with the predicted increase in residential land use, and that this increase will occur adjacent to US 1 on the mainland. As is currently the case, it is anticipated that new commercial establishments will serve both local residents and highway travellers. Two car dealers, Buick and Cadillac, are planning to move into the area, and other automotive related services may follow[(73)].

On Hutchinson Island, it is expected that the new residential projects will house commercial establishments such as beauty shops, sports equipment outlets, etc. In addition, other commercial establishments may be constructed along SR A1A. In fact, The Plan has zoned pockets of land on Hutchinson Island for such commercial development.

b) Institutions

At the present time, there are no plans to construct any schools or medical facilities within five miles of St Lucie Unit 2. However, pressure has been brought by local citizens on the General Development Corporation and other developers to provide school facilities for children residing within developments. For example, Port St Lucie, a development run by the CDC, has asked that schools be built to accommodate their children's needs[(74)]. GDC has provided land for three schools within the Midport development. If these schools are built, a middle school-high school will be located about 3.5 miles south-west of St Lucie Unit 2, and an elementary school will be located about 4.5 miles south southwest of the plant.

Industrial

Currently there is very little industrial land use (roughly 14 acres) within five miles of St Lucie Unit 2. It is not expected that a significant amount of new industrial activity will be initiated in this area.

According to The Plan, only the area currently abutting the GDC Industrial Park (roughly 180 acres) will be zoned light industrial. According to local planning officials, there are no new firms currently seeking to relocate within the 180 zoned acres[(87)].

Transportation, Communication, and Utilities

Within the transportation, communications and utilities classification, limited growth is anticipated. The Plan calls for the widening of roads currently intersecting with limited access highways. The Plan indicates that these roads could be expanded to four lanes. Within the five mile area, this objective would affect White City Road and SR A1A.

In June 1978, a traffic study of Hutchinson Island was published for the St Lucie Board of County Commissioners. The report concluded that the three existing connecting structures - South Bridge, Jensen Causeway, and Stuart Bridge - were inadequate to handle existing traffic volumes. The report recommended that a fourth bridge be constructed at SR 712 (White City Road) which would link US 1, the Florida Turnpike, and Interstate 95 to Hutchinson Island[89]. However, it is uncertain if, when, or where another river crossing will be constructed because the waters of the Indian River in this area are part of an aquatic preserve[85].

No expansion of the communications category is anticipated at this time. Future utility land use associated with the construction of St Lucie Unit 2 is discussed in Section 2.1.3.3.

Other Urban and Built-Up Land

The other urban and built-up land category encompasses miscellaneous urban land uses, such as urban parks, and recreational facilities.

A major land use change which will occur is the establishment of the State Savannahs Preserve. Using state funds, 3372 acres of land located at the western edge of the Florida East Coast Railroad right of way and paralleling SR 707 have been purchased for a conservation preserve[90]. It is intended that the property which is eventually included in this preserve will be restricted to public access, and will serve primarily as a wildlife refuge. According to the Recreation and Parks Division of the Natural Resources Department, most of the land which will be included in the State Savannahs Preserve has been purchased to date[91].

With the increase in residential and commercial land uses, it is expected that some growth in private recreational facilities will also occur. New residential complexes will probably include such recreational amenities as tennis courts, swimming pools, and possibly golf courses. Other urban land uses will probably increase as the area becomes more developed. For example, it can be expected that urban land, such as that given over to urban parks and water control structures, may be expanded in the future. At this time, there are no specific plans for such development; therefore, it is not possible to predict where such development will occur. However, it is likely that most of this type of development will occur along US 1 and other major roads, such as White City Road and Walton Road.

Agricultural Land

There are currently roughly 450 acres of actively used agricultural land within five miles of St Lucie Unit 2. It is unlikely that there will be an expansion of agricultural activities in the future. According to the local County Agricultural Agent, the expansion of agricultural activities is likely to occur to the west of US 1 and not within the five mile area[92]. The soils found within five miles of the plant, belonging to the Myakka-Immokolee-Basinger Association, have low potential for citrus production, which is the primary agricultural activity within five miles of the plant[71].

According to The Plan, "Prime agricultural, especially citrus, land should be preserved for continued production and benefit to the County economy". In spite of this stated concern for the preservation of agricultural land, it is expected that pressure to develop this land for residential or commercial use will be intense. Typically, the agricultural land within five miles of the plant which has been drained, is located near existing transportation corridors, and is easy to develop. Therefore, it is prime developable land in an area which will experience considerable development pressure in the future.

Other Land Uses

Little change is expected to occur in the future in the following USGS land cover/land use categories: forest land, water, and barren land.

Some of the pine forest scattered on the mainland will probably be cleared to accommodate new residential and commercial development. However, it is not anticipated that a significant percentage of the total forested acreage will be affected.

At this time, no major changes are projected within the barren land category. The transitional areas will eventually support one or more other land uses. Specifically, the transitional land north of Weatherbee Road, which was once agricultural, will probably evolve back into forested land.

2.1.3.7 Agriculture and Fisheries Within 50 Miles of St Lucie Unit 2

2.1.3.7.1 Introduction

This section consists principally of tabulated data concerning agricultural, livestock, and commercial and recreational marine landings within 50 miles of the St Lucie Unit 2 nuclear generating facility.

Data have been compiled on a county basis from field surveys and from information provided by federal, state, and county agencies, and reporting services. All or parts of ten counties are included within the 50 mile radius. These are St Lucie, Indian River, Brevard, Martin, Palm Beach, Okeechobee, Osceola, Glades, Highlands and Hendry counties. All of Indian River, St Lucie and Martin counties fall within the fifty mile radius. Approximately 75 percent of Okeechobee County, 50 percent of Palm Beach County and 20 percent of Brevard County fall within the 50 mile radius. Less than five percent of Osceola, Highlands, Glades and Hendry Counties are contained within the 50 mile area.

Agricultural data for those counties whose land area is not completely within the 50 mile area was allocated to the 50 mile area in the following manner:

The area of the entire county was analyzed using 1972 US Geological Survey Maps (Scale 1:250,000) to exclude those areas where agriculture or livestock farming could not occur. This would include water, wetland, urban recreation or "forested areas". The remaining "open" lands have been analyzed to determine what percentage falls within the 50 mile radius. This percentage is then applied to the county data to calculate what proportion of agricultural production falls within 50 miles of the site.

For fisheries production, data on marine landings for each county are used since data on fishing locations are not available.

2.1.3.7.2 Beef Production

Beef cattle production is one of the primary agricultural activities in southeastern Florida counties, with a production of approximately 137,000 head within the 50 mile study area. Table 2.1-13 shows Okeechobee, Martin and St Lucie counties as the major beef producers, producing $10,020 \times 10^3$ kilograms in 1977[93].

Presently there are 77 beef cattle ranches in St Lucie County, occupying 200,000 acres or 57 percent of the county area. Of this, 80,000 are improved pasture and 45,000 acres are highly improved pasture. By 1980-85, it is expected that beef cattle production will increase in the county along with an intensification in the cultivation of improved grasses and clover[94].

The grazing season for beef cattle in the study area begins in February, peaks in April, May and June, and ends by mid-November. During this period, bahia and pangola grasses are the principal pasture feeds; hay grasses rank second, and bermuda grasses, third[95]. In the cooler months from mid-November through January, small grains, hay and grass silage are necessary feed supplements, though in some areas the availability of white clover allows year around pasture feeding[95].

2.1.3.7.3 Milk Production

Milk production within the study area totaled approximately 151×10^6 kilograms in 1977[96]. Okeechobee County accounted for about two-thirds of this total, producing 102.5×10^6 kilograms in 1977[96]. Within the Okeechobee area, corn and grass silage are the principal dairy cow feeds, although State figures show that commercial mixed feeds consisting of corn, cotton seed meal, wheat bran, shorts and alfalfa pellets, are fed on the average at 16 pounds per day[96].

Table 2.1-14 identifies dairy herds and milk production within 50 miles of the proposed facility. Table 2.1-15 shows that approximately 97.5 percent of the annual milk produced within the 0-50 mile radius study area is sold to plants for manufacturing dairy products. Of the remaining, approximately 0.6 percent is used raw on the farm for milk, cream and butter; 0.3 is fed to calves; and 1.5 percent is sold locally[96].

2.1.3.7.4 Egg Production

Egg production, from poultry farms within the study area, accounts for less than nine percent of the state total[97]. Within the study area there are approximately 109 x 10^3 layers producing 26 x 10^6 eggs. Indian River, Martin and St Lucie counties are the largest egg producers in the 50 mile area. Each of these counties has 25,000 layers producing on the average of 16,250 eggs per day. Table 2.1-16 is a breakdown by county of the egg production within 50 miles of St Lucie Unit 2.

2.1.3.7.5 Commercial Vegetables, Fruit and Sugarcane Crops

Commercial vegetables and citrus fruits are the main agricultural products in the area. Table 2.1-17 provides vegetable harvest statistics for the 0-50 mile radius area. Tomatoes and watermelon are the principal produce within 50 miles of the site, accounting for annual harvests of approximately 3,000 acres and 650 acres respectively[98]. Table 2.1-18 provides yield statistics for those counties in the southeastern part of the state; Table 2.1-19 shows state-wide yield statistics.

Citrus crops are grown throughout the study area. Table 2.1-20 lists, by county, the amounts and types of citrus crops grown in the 50 mile area. St Lucie and Indian River Counties are the largest producers in the area. In 1977, St Lucie County produced 3.7×10^8 kilograms of oranges and 3.3×10^8 kilograms of grapefruit. In the same year Indian River produced 2.1×10^8 kilograms of oranges and 3.3×10^8 kilograms of grapefruit[99]. These two counties accounted for 73 percent of the total citrus produced in the study area and 13 percent of the state total[100].

Florida statistics show a net decline in Florida citrus acreage since 1970. In 1977, 21,538 acres were removed from production. St Lucie and Martin Counties were major contributors to the decline, while Hendry and Palm Beach Counties were the only two counties within the study area (and two of three counties within the State) showing significant gains in citrus acreage[100].

Sugarcane is produced in the Everglades in the south and southwest portion of the study area in Glades, Martin, and Palm Beach counties. Table 2.1-21 lists sugarcane production in Florida was produced in the 50 mile study area[100].

2.1.3.7.6 Commercial Fish and Shellfish Landings

Commercial landing statistics of fish and shellfish for the coastal counties within 50 miles of St Lucie Unit 2 (Brevard, Indian River, St Lucie, Martin, and Palm Beach counties) are presented by total landing in 1976 and principal species in Table 2.1-22. While Florida east coast landings in 1976 dropped by four percent from 1975[101], total fish and shellfish landings for the coastal counties within 50 miles of the site showed a marked increase. Total landings for these counties were up approximately 18.6 percent from 1975 (See Table 2.1-23). The increase was the result of a 33.6 percent increase in fish landings from 7.1×10^6 kilograms in 1975 to 9.5×10^6 kilograms in 1976. Total shellfish landings however, declined by 36.9 percent from 1.9×10^6 kilograms in 1975 to 1.2×10^6 in 1976. Brevard was the only county which experienced a decline in both fish and shellfish landings, with a 3.9 percent decrease in fish landings and 26.1 percent decrease in shellfish landings between 1975 and 1976.

Table 2.1-23 compares 1976 to 1975 total fish and shellfish marine landings for Brevard, Indian River, St Lucie, Martin and Palm Beach counties. Approximately 90 percent of the fish caught is consumed by humans (See Table 2.1-24). Twenty percent of fish catch is consumed locally[102]. Principal finfish species taken were black mullet, menhaden, Spanish mackeral, bluefish, pompano and red snapper. The major commercial ports within this area include Fort Pierce in St Lucie County, Port Salerno in Martin County, and Riveria Beach and Jupiter in Palm Beach County.

According to the National Marine Fisheries Service, future commercial fish and shellfish landings are difficult to project, since catch is dependent largely on weather conditions, and the statistics are influenced by reporting estimates. Nonetheless, the trend in Florida marine landings over the past several years has been a decline of from two to four percent annually[101].

2.1.3.7.7 Recreational Fishing

Principal sport fishing areas within 50 miles of the plant site include the waters off Hutchinson Island, where pompano, bluefish, false albacore, kingfish, sailfish, dolphins, amberjack, flounder, mackerel and barracuda are common, and the St Lucie Inlet, predominated by snook, tarpon, redfish, spotted sea trout and bottom fish[103].

Shore fishing occurs along the beaches of Hutchinson Island in the vicinity of St Lucie Unit 2. Access along the beach is not restricted, so it is possible for someone to fish directly on shore front of the discharge pipeline. However, information is not available concerning the quality of the fishing in the area.

The variety of species of fish which may be caught while shore fishing include kingfish, pompano, palometa and spotfin mojarra[104].

2.1.3.7.8 Hunting Statistics

Hunting statistics have been tabulated for the J W Corbett Wildlife Management Area and are shown in Table 2.1-25. The J W Corbett Wildlife Management Area occupies approximately 500 square miles of the western portion of the study area, mainly in Palm Beach County.

Hunting season lasts from September 10 through March 26; the second week of January through the end of February each year is small game season and the month of March is spring turkey season[105]. Quail, snipe and duck are the most common fowl taken while deer, hogs and squirrels are the principal wild animals taken[105]. The game biologist for the J W Corbett Wildlife Management Area assumes that 100 percent of the wild game harvest is consumed locally[105].

2.1.3.8 Surface Water Use

2.1.3.8.1 Consumptive Use

This is no potable water use of any water resource which would be affected by St Lucie Unit 2 discharge[81]. Since drinking water supplies are brought to Hutchinson Island by pipeline and since groundwater flows are from west to east toward the ocean, no contamination of drinking water is considered plausible[81]. Therefore, no analyses of consumptive surface water use were performed.

2.1.3.8.2 Recreational Water Use

Since the discharge of St Lucie Unit 2 is into the Atlantic Ocean, only those recreational uses associated with saltwater activities have been considered. These include beach activities, fishing, boating, and surfing, as defined in <u>Outdoor Recreation in Florida 1976</u>, a publication of the State of Florida Department of Natural Resources[106].

It is difficult to estimate accurately the number and location of people involved in these activities because of the lack of information on the places at which people take part in recreational pursuits. However, by utilizing the results of state user surveys[106], a general order of magnitude estimate of saltwater recreational activities with 50 miles of St Lucie Unit 2 can be generated. Statewide 1975 annual per capita participation rates for each saltwater related activity were modified to reflect average daily recreational use (see Table 2.1-26 for methodology). These average daily per capita participation rates were applied to the projected population (resident and tourist) within 50 miles of St Lucie Unit 2 (see Section 2.1.2) to estimate the average daily number of recreational saltwater users. The results of these calculations are shown in Table 2.1-26.

These projections are based on the following assumptions:

a) Recreational users will pursue their activities only within 50 miles of St Lucie Unit 2. Residents and tourists in this area will sometimes journey out of the area for saltwater recreation, and, in turn, people from outside this area will enter it for these purposes. However, it is felt that these movements largely counterbalance one another, and because of the lack of more specific data, the numbers shown in Table 2.1-26 reflect a reasonable estimate of recreational saltwater use.

b) Recreational participation rates will not change over time. As stated in <u>Outdoor Recreation In Florida 1976</u>, such factors "have not been accurately estimated and quantified"[41]. Because of this assumption, recreational use varies directly with the projected population.

c) Participation rates for only Region X (southeast Florida from St Lucie to Dade Counties) would apply in the study area. Indian River and Brevard Counties fall in a different Region, where participation rates are considerably lower. However, it was felt that using the Region X rates would result in a more conservative estimate, taking into account possible future increases in participation.

A 1978 average daily total of 110,431 recreational saltwater users is estimated within 50 miles of St Lucie Unit 2. This is expected to increase to 246,908 by 2030. Each category of saltwater recreational activity is discussed in the following paragraphs:

Beach Activities

Beach activities include saltwater swimming, sunbathing, relaxing, beachcombing and shell collecting. These activities account for 60 percent of all saltwater related recreational use. The density of these users will vary according to whether or not access is available to the beach, and whether or not the beach is public (i.e., has lifeguards). For example, according to a survey of beaches in Martin County[107] performed in 1978, guarded beaches had an average density of 0.9 persons per lineal foot, while unprotected areas had as few as 0.0036 people per linear foot. In a survey of beaches within two miles of St Lucie Unit 2 conducted by FP&L in July, 1975[108], the average density was 0.0122 people per lineal foot on the July 4th weekend. On other weekends this density was as low as 0.0025 people per lineal foot. The beaches near St Lucie Unit 2 have relatively few access points.

The differences in user density along the coast within 50 miles of St Lucie Unit 2 can be shown generally by mapping the public beaches and access points. This is done in Figure 2.1-19[109,110]. The public beaches closest to the St Lucie Unit 2 discharge are on Hutchinson Inland about four miles NNW of the plant. Average daily usage at these beaches was 656 persons between October 1, 1977 and September 30, 1978[111]. In general, the public beaches tend to be clustered near bridges over the Indian River.

Saltwater Fishing

Saltwater fishing activities account for 18.4 percent of recreational water users within 50 miles of St Lucie Unit 2. These activities can include surf casting, crabbing, and deep sea fishing. No information on distribution of these users is available.

Boating

Boating includes both power boating and sailing. Power boating is a considerably more popular activity than sailing, occupying 17.9 percent of the recreational saltwater users, as opposed to only 1.4 percent for sailing. Boating activity takes place in conjunction with marinas and boat ramps, and the greatest density of this activity probably take place in the vicinity of these facilities. Marinas within 50 miles of St Lucie Unit 2 are shown in Figure 2.1-19. Most of these facilities are located near the populated areas and the Indian River inlets. The nearest public marina to St Lucie Unit 2 is approximately six miles south of the St Lucie plant[112]. It can also be expected that extensive pleasure boating takes place in most other areas of the Indian River as well as the nearby areas of the Atlantic Ocean.

Surfing

Surfing is a relatively unimportant activity in this area, with only 1.8 percent of the recreational saltwater users involved in this pursuit.

2.1.3.9 Groundwater Use

Field permeability tests at the plant site have indicated a seepage or flow of about 15,000 feet per year in the top 30 feet of the sand deposits. Taking the highest permeability coefficient obtained and a hydraulic gradient of 100 percent, any discharge introduced into the ground at the plant site would reach the Indian River in about a day. The discharge would then be greatly diluted. Because of the width of Indian River and presence of a continuous flow of groundwater toward the coastline, there is no possibility of subsurface flow from the site to the mainland. This precludes any intrusion of plant releases into the mainland groundwater supplies[81].

In addition, no successful fresh water wells have been found on Hutchinson Island[81]. For these reasons, no analysis of groundwater users has been made.

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TABLE 2.1-1

RESIDENT POPULATION WITHIN 50 MILES OF ST LUCIE UNIT 2
1978

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	*	Total 0-10	*	10-20	20-30	30-40	40-50	*	Total 10-50	*	Total 0-50
N	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
NNE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
NE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ENE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
E	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ESE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
SE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
SSE	0	0	0	0	1928	6212	*	8140	*	7508	18119	53957	126615	*	206199	*	214339
S	0	0	0	212	223	6744	*	7179	*	17948	568	6274	65250	*	90040	*	97219
SSW	0	0	104	0	0	1330	*	1434	*	1752	3452	158	4044	*	9406	*	10840
SW	0	19	70	0	0	723	*	812	*	1752	1646	74	11029	*	14501	*	15313
WSW	0	59	0	11	2767	3854	*	6691	*	0	0	9120	566	*	9686	*	16377
W	0	19	44	532	517	482	*	1594	*	1913	0	8360	1223	*	11496	*	13090
WNW	0	0	108	382	1229	3302	*	5021	*	689	0	0	119	*	808	*	5829
NW	0	0	0	33	141	36483	*	36657	*	15799	1079	2159	0	*	19037	*	55694
NNW	0	0	0	0	0	3523	*	3523	*	4143	42045	3138	2215	*	51541	*	55064
Total	0	97	326	1170	6805	62653	*	71051	*	51504	66909	83240	211061	*	412714	*	483765

TABLE 2.1-1

RESIDENT POPULATION WITHIN 50 MILES OF ST LUCIE UNIT 2
1980

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	*	Total 0-10	*	10-20	20-30	30-40	40-50	*	Total 10-50	*	Total 0-50
N	0	17	0	0	0	0	*	17	*	0	0	0	0	*	0	*	17
NNE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
NE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ENE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
E	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ESE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
SE	0	15	0	0	0	0	*	15	*	0	0	0	0	*	0	*	15
SSE	0	10	0	29	1983	6487	*	8509	*	8385	19776	60385	132498	*	221044	*	229553
S	0	0	0	218	240	6965	*	7423	*	20043	633	7022	73024	*	100722	*	108145
SSW	0	0	112	208	520	2754	*	3594	*	1957	3885	171	4378	*	10391	*	13985
SW	0	20	74	93	2543	2717	*	5447	*	1957	1838	83	11941	*	15819	*	21266
WSW	0	63	5	22	2878	5938	*	8906	*	0	0	10032	608	*	10640	*	19546
W	0	20	51	560	559	738	*	1928	*	2070	0	9196	1343	*	12609	*	14537
WNW	0	0	114	402	1309	3414	*	5239	*	745	0	0	129	*	874	*	6113
NW	0	0	0	34	146	37962	*	38142	*	17084	1159	2318	0	*	20561	*	58703
NNW	0	8	12	10	16	3619	*	3665	*	4471	45154	3322	2272	*	55219	*	58884
Total	0	153	368	1576	10194	70594	*	82885	*	56712	72445	92529	226193	*	447879	*	530764

TABLE 2.1-1

RESIDENT POPULATION WITHIN 50 MILES OF ST LUCIE UNIT 2
1983

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	*	Total 0-10	*	10-20	20-30	30-40	40-50	*	Total 10-50	*	Total 0-50
N	0	25	0	0	0	0	*	25	*	0	0	0	0	*	0	*	25
NNE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
NE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ENE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
E	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ESE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
SE	0	22	0	0	0	0	*	22	*	0	0	0	0	*	0	*	22
SSE	0	14	0	44	2006	6719	*	8783	*	9672	22043	68820	140290	*	240825	*	249608
S	0	0	0	221	248	7107	*	7576	*	23119	728	8002	83224	*	115073	*	122649
SSW	0	0	115	218	549	3063	*	3945	*	2257	4446	188	4818	*	11709	*	15654
SW	0	21	76	102	2574	2886	*	5659	*	2257	2120	96	13140	*	17613	*	23272
WSW	0	65	8	27	2933	6834	*	9867	*	0	0	11232	670	*	11902	*	21769
W	0	20	54	573	578	850	*	2075	*	2278	0	10296	1501	*	14075	*	16150
WNW	0	0	117	412	1346	3496	*	5371	*	820	0	0	143	*	963	*	6334
NW	0	0	0	35	148	38698	*	38881	*	18778	1264	2528	0	*	22570	*	61451
NNW	0	12	16	14	23	3681	*	3746	*	4903	49244	3566	2349	*	60062	*	63808
Total	0	179	386	1646	10405	73334	*	85950	*	64084	79845	104728	246135	*	494792	*	580742

TABLE 2.1-1

RESIDENT POPULATION WITHIN 50 MILES OF ST LUCIE UNIT 2
1990

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	*	Total 0-10	*	10-20	20-30	30-40	40-50	*	Total 10-50	*	Total 0-10
N	0	68	0	0	0	0	*	68	*	0	0	0	0	*	0	*	68
NNE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
NE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ENE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
E	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ESE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
SE	0	60	0	0	0	0	*	60	*	0	0	0	0	*	0	*	60
SSE	0	38	0	119	2144	7155	*	9456	*	11369	25837	84538	155048	*	276792	*	286248
S	0	0	0	237	291	7582	*	8110	*	27175	855	9830	102232	*	140092	*	148202
SSW	0	0	133	269	700	5022	*	6124	*	2653	5226	220	5641	*	13740	*	19864
SW	0	25	86	146	2730	3955	*	6942	*	2653	2492	113	15385	*	20643	*	27585
WSW	0	75	21	54	3214	12495	*	15859	*	0	0	13296	783	*	14079	*	29938
W	0	21	71	641	680	1563	*	2976	*	2668	0	12188	1774	*	16630	*	19606
WNW	0	0	133	461	1542	3685	*	5821	*	960	0	0	168	*	1128	*	6949
NW	0	0	0	39	160	41058	*	41257	*	21980	1472	2944	0	*	26396	*	67653
NNW	0	30	42	38	62	3898	*	4070	*	5731	57342	4115	2650	*	69838	*	73908
Total	0	317	486	2004	11523	86413	*	100743	*	75189	93224	127244	283681	*	579338	*	680081

TABLE 2.1-1

RESIDENT POPULATION WITHIN 50 MILES OF ST LUCIE UNIT 2
2000

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	*	Total 0-10	*	10-20	20-30	30-40	40-50	*	Total 10-50	*	Total 0-50
N	0	115	0	0	0	0	*	115	*	0	0	0	0	*	0	*	115
NNE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
NE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ENE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
E	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ESE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
SE	0	102	0	0	0	0	*	102	*	0	0	0	0	*	0	*	102
SSE	0	64	0	201	2295	7345	*	9905	*	13207	30012	101810	171690	*	316719	*	326624
S	0	0	0	254	335	7712	*	8301	*	31569	994	11838	123119	*	167520	*	175821
SSW	0	0	154	326	867	8010	*	9357	*	3082	6071	255	6552	*	15960	*	25317
SW	0	28	97	195	2904	5523	*	8747	*	3082	2895	131	17870	*	23987	*	32725
WSW	0	86	37	84	3525	20000	*	23732	*	0	0	15447	911	*	16358	*	40090
W	0	23	90	717	792	2702	*	4324	*	3099	0	14160	2062	*	19321	*	23645
WNW	0	0	150	516	1758	3790	*	6214	*	1115	0	0	195	*	1310	*	7524
NW	0	0	0	42	173	41806	*	42021	*	25533	1711	3422	0	*	30666	*	72687
NNW	0	52	70	64	105	3927	*	4219	*	6658	66653	4782	3078	*	81171	*	85390
Total	0	470	598	2399	12755	100815	*	117037	*	87345	108336	151845	325477		673003		790040

TABLE 2.1-1

RESIDENT POPULATION WITHIN 50 MILES OF ST LUCIE UNIT 2
2010

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	*	Total 0-10	*	10-20	20-30	30-40	40-50	*	Total 10-50	*	Total 0-50
N	0	155	0	0	0	0	*	155	*	0	0	0	0	*	0	*	155
NNE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
NE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ENE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
E	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ESE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
SE	0	137	0	0	0	0	*	137	*	0	0	0	0	*	0	*	137
SSE	0	85	0	272	2421	8163	*	10941	*	14758	33537	116302	185967	*	350564	*	361505
S	0	0	0	268	375	8551	*	9194	*	35277	1111	13524	140645	*	190557	*	199751
SSW	0	0	172	374	1009	11103	*	12658	*	3444	6784	285	7322	*	17835	*	30493
SW	0	32	107	237	3049	6863	*	10288	*	3444	3236	146	19969	*	26795	*	37083
WSW	0	96	49	110	3788	20000	*	24043	*	0	0	17262	1019	*	18281	*	42324
W	0	25	106	781	887	3343	*	5142	*	3463	0	15823	2304	*	21590	*	26732
WNW	0	0	164	562	1942	4200	*	6868	*	1247	0	0	218	*	1465	*	8333
NW	0	0	0	46	183	46391	*	46620	*	28533	1912	3824	0	*	34269	*	80889
NNW	0	70	94	85	140	4348	*	4737	*	7441	74482	5344	3439	*	90706	*	95443
Total	0	600	692	2735	13794	112962	*	130783	*	97607	121062	172510	360883	*	752062	*	882845

TABLE 2.1-1

RESIDENT POPULATION WITHIN 50 MILES OF ST LUCIE UNIT 2
2020

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	*	Total 0-10	*	10-20	20-30	30-40	40-50	*	Total 10-50	*	Total 0-50
N	0	194	0	0	0	0	*	194	*	0	0	0	0	*	0	*	194
NNE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
NE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ENE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
E	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
ESE	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0	*	0
SE	0	171	0	0	0	0	*	171	*	0	0	0	0	*	0	*	171
SSE	0	106	0	339	2543	8865	*	11853	*	16266	36964	130364	199908	*	383502	*	395355
S	0	0	0	282	413	9272	*	9967	*	38882	1223	15159	157649	*	212913	*	222880
SSW	0	0	189	421	1146	14126	*	15882	*	3796	7477	314	8070	*	19657	*	35539
SW	0	35	116	277	3191	8500	*	12119	*	3796	3566	161	22010	*	29533	*	41652
WSW	0	105	62	135	4044	20000	*	24346	*	0	0	19026	1123	*	20149	*	44495
W	0	26	122	844	980	4424	*	6396	*	3816	0	17440	2539	*	23795	*	30191
WNW	0	0	178	607	2120	4555	*	7460	*	1374	0	0	240	*	1614	*	9074
NW	0	0	0	49	196	50317	*	50562	*	31449	2108	4215	0	*	37772	*	88334
NNW	0	87	117	106	175	4715	*	5200	*	8201	82094	5890	3791	*	99976	*	105176
Total	0	724	784	3060	14808	124774	*	144150	*	107580	133432	192569	395330	*	828911	*	973061

TABLE 2.1-1

RESIDENT POPULATION WITHIN 50 MILES OF ST LUCIE UNIT 2
2030

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	* Total 0-10 *	10-20	20-30	30-40	40-50	* Total 10-50 *	Total 0-50
N	0	237	0	0	0	0	* 237 *	0	0	0	0	* 0 *	237
NNE	0	0	0	0	0	0	* 0 *	0	0	0	0	* 0 *	0
NE	0	0	0	0	0	0	* 0 *	0	0	0	0	* 0 *	0
ENE	0	0	0	0	0	0	* 0 *	0	0	0	0	* 0 *	0
E	0	0	0	0	0	0	* 0 *	0	0	0	0	* 0 *	0
ESE	0	0	0	0	0	0	* 0 *	0	0	0	0	* 0 *	0
SE	0	209	0	0	0	0	* 209 *	0	0	0	0	* 0 *	209
SSE	0	129	0	414	2678	9869	* 13090 *	17925	40735	145878	215143	* 419681 *	432771
S	0	0	0	298	456	10306	* 11060 *	42848	1349	16963	176411	* 237571 *	248631
SSW	0	0	208	473	1298	17148	* 19127 *	4183	8240	346	8893	* 21662 *	40789
SW	0	38	126	322	3349	10136	* 13971 *	4183	3930	177	24255	* 32545 *	46516
WSW	0	115	76	152	4326	20000	* 24669 *	0	0	20966	1237	* 22203 *	46872
W	0	28	139	912	1082	5506	* 7667 *	4206	0	19219	2798	* 26223 *	33890
WNW	0	0	194	656	2316	5066	* 8232 *	1514	0	0	265	* 1779 *	10011
NW	0	0	0	52	207	54497	* 54756 *	34657	2323	4645	0	* 41625 *	96381
NNW	0	108	143	129	214	5239	* 5833 *	9038	90468	6491	4177	* 110174 *	116007
Total	0	864	886	3408	15926	137767	* 158851 *	118554	147045	214685	433179	* 913463 *	1072314

TABLE 2.1-2

AGE DISTRIBUTION OF THE PROJECTED POPULATION FOR THE YEAR 2000
WITHIN TEN MILES OF ST LUCIE UNIT 2

	0-1 miles			1-2 miles			2-3 miles			3-4 miles			4-5 miles			5-10 miles			Total 0-10 miles			Total 0-10 miles
Sector	12*	12-18**	18***	12	12-18	18	12	12-18	18	12	12-18	18	12	12-18	18	12	12-18	18	12	12-18	18	All ages
N	0	0	0	29	18	83	0	0	0	0	0	0	0	0	0	0	0	0	29	18	83	130
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	26	15	74	0	0	0	0	0	0	0	0	0	0	0	0	26	15	74	115
SSE	0	0	0	16	10	45	0	0	0	51	30	146	521	316	1,500	1,731	1,048	4,982	2,319	1,404	6,673	10,396
S	0	0	0	0	0	0	0	0	0	58	35	166	78	47	225	1,777	1,076	5,115	1,913	1,158	5,506	8,577
SSW	0	0	0	0	0	0	36	22	103	35	21	100	103	62	296	1,852	1,121	5,333	2,026	1,226	5,832	9,084
SW	0	0	0	6	4	19	22	14	65	30	18	87	107	64	307	1,078	652	3,102	1,243	752	3,580	5,575
WSW	0	0	0	20	12	58	9	6	27	21	13	60	808	489	2,327	4,460	2,700	12,840	5,318	3,220	15,312	23,850
W	0	0	0	5	3	16	21	13	62	165	100	475	184	112	531	767	465	2,210	1,142	693	3,294	5,129
WWW	0	0	0	0	0	0	35	21	99	119	72	342	407	246	1,172	878	531	2,528	1,439	870	4,141	6,450
NW	0	0	0	0	0	0	0	0	0	9	6	28	39	24	114	9,618	5,822	27,689	9,666	5,852	27,831	43,349
NNW	0	0	0	13	8	38	17	11	50	16	9	46	27	16	77	901	545	2,593	974	589	2,804	4,367
	0	0	0	115	70	333	140	87	406	504	304	1,450	2,274	1,376	6,549	23,062	13,960	66,392	26,095	15,797	75,130	117,022

*Persons eleven years of age or younger.
**Persons between and including twelve to eighteen years of age.
***Persons nineteen years of age or older.

TABLE 2.1-3

CITIES, TOWNS AND COMMUNITIES OF OVER 5,000 PERSONS
WITHIN 50 MILES OF ST LUCIE UNIT 2
ESTIMATED FOR 1978

a) Communities of over 10,000 Persons

City or Town	County	1970 Population	1976 Population (Estimated)	1978 Population (Estimated)**
West Palm Beach***	Palm Beach	57,375	61,236	62,616
Fort Pierce	St Lucie	29,721	32,182	33,083
Riviera Beach***	Palm Beach	21,401	25,892	27,735
Vero Beach	Indian River	11,908	15,303	16,800
North Palm Beach***	Palm Beach	9,035	13,026	15,014
Palm Springs***	Palm Beach	4,340	8,437	11,300
Palm Beach Gardens***	Palm Beach	6,102	9,182	10,792
Stuart	Martin	4,820	8,479	10,760

b) Communities of between 5,000 and 10,000 Persons

County or Town	County	1970 Population*	1976 Population (Estimated)*	1978 Population (Estimated)**
Palm Beach***	Palm Beach	9,086	9,724	9,952
Gifford	Indian River	3,509	5,772	9,485
Lake Park***	Palm Beach	6,993	8,182	8,652
Greenacres City***	Palm Beach	1,731	4,447	6,773
Pahokee	Palm Beach	5,663	5,813	5,864
Port St Lucie++	St Lucie	330	4,463	6,465
Royal Palm Beach	Palm Beach	475	2,380	5,598

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* Treasure Coast Regional Planning Council, Regional Profile, September 1977, Table 30.

** Methodology discussed in Section 6.1.4.2.

*** Part of West Palm Beach Urbanized Area, 1970 Census, Florida, Number of Inhabitants, Table 11 and Figure 11-45.

\+ 1978 population estimated on basis of annual average growth rate from the 1960 population of 3,509 to the 1970 population of 5,772 (1970 Census, Florida, Number of Inhabitants, Table 6) because 1976 estimate was not available.

++ "Population Estimates and Projections", Comprehensive Planning Program, prepared by the City Planning Dept, Port St Lucie, Florida, February 1978.

TABLE 2.1-4

AGE DISTRIBUTION OF THE PROJECTED POPULATION FOR THE YEAR 2000
BETWEEN TEN AND 50 MILES OF ST LUCIE UNIT 2

Sector	10-20 miles			20-30 miles			30-40 miles			40-50 miles			Total 10-50 miles			Total 10-50 miles
	12*	12-18**	18***	12	12-18	18	12	12-18	18	12	12-18	18	12	12-18	18	All ages
N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSE	2,945	1,783	8,479	6,693	4,052	19,267	22,704	13,744	65,362	38,287	23,178	110,225	70,629	42,757	203,333	316,719
S	7,040	4,262	20,267	222	134	638	2,640	1,598	7,600	27,455	16,621	79,043	37,357	22,615	107,548	167,520
SSW	687	416	1,979	1,354	820	3,897	57	34	164	1,461	885	4,206	3,559	2,155	10,246	15,960
SW	687	416	1,979	646	391	1,858	29	18	84	3,985	2,412	11,473	5,347	3,237	15,394	23,978
WSW	0	0	0	0	0	0	3,445	2,085	9,917	203	123	585	3,648	2,208	10,502	16,358
W	691	418	1,990	0	0	0	3,158	1,912	9,090	460	278	1,324	4,309	2,608	12,404	19,321
WNW	249	150	716	0	0	0	0	0	0	43	26	126	292	176	842	1,310
NW	5,694	3,447	16,392	382	231	1,098	763	462	2,197	0	0	0	6,839	4,140	19,687	30,666
NNW	1,485	899	4,274	14,864	8,998	42,791	1,066	646	3,070	686	416	1,976	18,101	10,959	52,111	81,171
	19,478	11,791	56,076	24,161	14,626	69,549	33,862	20,499	97,484	72,580	43,939	208,958	150,081	90,855	432,067	673,003

*Persons eleven years of age or younger.
**Persons between and including twelve to eighteen years of age.
***Persons nineteen years of age or older.

TABLE 2.1-5

PEAK DAILY TOURISTS AND SEASONAL VISITORS WITHIN 30 MILES OF ST LUCIE UNIT 2

1978

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	*	Total 0-10	*	10-20	20-30	*	Total 10-30	*	Total 0-30
N	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
NNE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
NE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
ENE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
E	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
ESE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
SE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
SSE	0	0	0	0	5133	6439	*	11572	*	3407	8348	*	11755	*	23327
S	0	0	0	42	44	1680	*	1766	*	6814	190	*	7004	*	8770
SSW	0	0	20	0	0	1861	*	1881	*	572	1125	*	1697	*	3578
SW	0	4	14	0	0	142	*	160	*	572	536	*	1108	*	1268
WSW	0	11	0	2	544	757	*	1314	*	0	0	*	0	*	1314
W	0	4	9	105	102	95	*	315	*	649	0	*	649	*	964
WNW	0	0	21	75	773	866	*	1735	*	234	0	*	234	*	1969
NW	0	0	0	6	154	7644	*	7804	*	3845	437	*	4282	*	12086
NNW	0	0	0	0	50	1582	*	1632	*	2467	16993	*	19460	*	21092
TOTAL	0	19	64	230	6800	21066	*	28179	*	18560	27629	*	46189	*	74368

TABLE 2.1-5

PEAK DAILY TOURISTS AND SEASONAL VISITORS WITHIN 30 MILES OF ST LUCIE UNIT 2

1980

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	* Total 0-10 *	10-20	20-30	* Total 10-30 *	Total 0-30
N	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NNE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ENE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
E	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ESE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SSE	0	0	0	0	10[illegible]	7326	* 17486 *	4470	9014	* 13484 *	30970
S	0	0	0	49	52	1840	* 1941 *	7962	194	* 8156 *	10097
SSW	0	0	24	0	0	1585	* 1609 *	586	1153	* 1739 *	3348
SW	0	4	17	0	447	167	* 635 *	586	550	* 1136 *	1771
WSW	0	13	0	2	638	889	* 1542 *	0	0	* 0 *	1542
W	0	4	10	123	119	111	* 367 *	660	0	* 660 *	1027
WNW	0	0	24	88	1335	935	* 2382 *	237	0	* 237 *	2619
NW	0	0	0	7	162	8989	* 9158 *	4693	478	* 5171 *	14329
NNW	0	0	0	0	102	1717	* 1819 *	3471	18599	* 22070 *	23889
TOTAL	0	21	75	269	13015	23559	* 36939 *	22665	29988	* 52653 *	89592

TABLE 2.1-5

PEAK DAILY TOURISTS AND SEASONAL VISITORS WITHIN 30 MILES OF ST LUCIE UNIT 2

1983

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10		Total 0-10		10-20	20-30		Total 10-30		Total 0-30
N	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
NNE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
NE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
ENE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
E	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
ESE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
SE	0	0	0	0	0	0	*	0	*	0	0	*	0	*	0
SSE	0	0	0	0	12799	9228	*	22027	*	5631	11355	*	16986	*	39013
S	0	0	0	62	65	2317	*	2444	*	10030	237	*	10267	*	12711
SSW	0	0	29	0	0	1997	*	2026	*	738	1453	*	2191	*	4217
SW	0	5	21	0	564	210	*	800	*	738	692	*	1430	*	2230
WSW	0	16	0	3	804	1120	*	1943	*	0	0	*	0	*	1943
W	0	5	13	156	151	140	*	465	*	831	0	*	831	*	1296
WNW	0	0	31	111	1681	1179	*	3002	*	299	0	*	299	*	3301
NW	0	0	0	9	168	11326	*	11503	*	5910	540	*	6450	*	17953
NNW	0	0	0	0	129	1919	*	2048	*	4372	21008	*	25380	*	27428
TOTAL	0	26	94	341	16361	29436	*	46258	*	28549	35285	*	63834	*	110092

TABLE 2.1-5

PEAK DAILY TOURISTS AND SEASONAL VISITORS WITHIN 30 MILES OF ST LUCIE UNIT 2

1990

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	* Total 0-10 *	10-20	20-30	* Total 10-30 *	Total 0-30
N	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NNE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ENE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
E	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ESE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SSE	0	0	0	0	16562	11941	* 28503 *	7286	14693	* 21979 *	50482
S	0	0	0	80	84	2998	* 3162 *	12978	316	* 13294 *	16456
SSW	0	0	38	0	0	2584	* 2622 *	955	1880	* 2835 *	5457
SW	0	7	27	0	730	271	* 1035 *	955	896	* 1851 *	2886
WSW	0	21	0	4	1040	1449	* 2514 *	0	0	* 0 *	2514
W	0	7	17	201	195	181	* 601 *	1075	0	* 1075 *	1676
WNW	0	0	40	144	2176	1526	* 3886 *	388	0	* 388 *	4274
NW	0	0	0	11	217	14654	* 14882 *	7648	699	* 8347 *	23229
NNW	0	0	0	0	167	2484	* 2651 *	5658	27183	* 32841 *	35492
TOTAL	0	35	122	440	21171	38088	* 59856 *	36943	45667	* 82610 *	142466

TABLE 2.1-5

PEAK DAILY TOURISTS AND SEASONAL VISITORS WITHIN 30 MILES OF ST LUCIE UNIT 2

2000

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	* Total 0-10 *	10-20	20-30	* Total 10-30 *	Total 0-30
N	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NNE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ENE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
E	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ESE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SSE	0	0	0	0	20385	14698	* 35083 *	8968	18085	* 27053 *	62136
S	0	0	0	99	103	3690	* 3892 *	15974	389	* 16363 *	20255
SSW	0	0	47	0	0	3180	* 3227 *	1176	2313	* 3489 *	6716
SW	0	9	33	0	898	334	* 1274 *	1176	1103	* 2279 *	3553
WSW	0	27	0	4	1280	1784	* 3095 *	0	0	* 0 *	3095
W	0	9	21	247	240	223	* 740 *	1324	0	* 1324 *	2064
WNW	0	0	49	177	2678	1877	* 4781 *	478	0	* 478 *	5259
NW	0	0	0	14	268	18037	* 18319 *	9413	860	* 10273 *	28592
NNW	0	0	0	0	205	3057	* 3262 *	6965	33458	* 40423 *	43689
TOTAL	0	45	150	541	26057	46880	* 73673 *	45474	56208	*101682 *	175355

TABLE 2.1-5

PEAK DAILY TOURISTS AND SEASONAL VISITORS WITHIN 30 MILES OF ST LUCIE UNIT 2

2010

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	* Total 0-10 *	10-20	20-30	* Total 10-30 *	Total 0-30
N	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NNE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ENE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
E	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ESE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SSE	0	0	0	0	25093	18090	* 43183 *	11039	22259	* 33298 *	76481
S	0	0	0	122	128	4542	* 4792 *	19661	479	* 20140 *	24932
SSW	0	0	58	0	0	3914	* 3972 *	1447	2849	* 4296 *	8268
SW	0	11	41	0	1105	411	* 1568 *	1447	1358	* 2805 *	4073
WSW	0	32	0	5	1576	2195	* 3808 *	0	0	* 0 *	3808
W	0	11	26	304	296	275	* 912 *	1629	0	* 1629 *	2541
WNW	0	0	60	218	3297	2311	* 5886 *	587	0	* 587 *	6473
NW	0	0	0	17	329	22201	* 22547 *	11587	1059	* 12646 *	35193
NNW	0	0	0	0	252	3762	* 4014 *	8572	41182	* 49754 *	53768
TOTAL	0	54	185	666	32076	57701	* 90682 *	55969	69186	*125155 *	215837

TABLE 2.1-5

PEAK DAILY TOURISTS AND SEASONAL VISITORS WITHIN 30 MILES OF ST LUCIE UNIT 2

2020

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	* Total 0-10 *	10-20	20-30	* Total 10-30 *	Total 0-30
N	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NNE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ENE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
E	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ESE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SSE	0	0	0	0	30886	22268	* 53154 *	13586	27398	* 40985 *	94139
S	0	0	0	150	157	5591	* 5898 *	24200	589	* 24789 *	30687
SSW	0	0	71	0	0	4818	* 4889 *	1781	3506	* 5287 *	10176
SW	0	13	50	0	1360	506	* 1929 *	1781	1670	* 3451 *	5380
WSW	0	40	0	7	1939	2702	* 4688 *	0	0	* 0 *	4688
W	0	13	32	374	364	339	* 1122 *	2005	0	* 2005 *	3127
WNW	0	0	74	268	4057	2843	* 7242 *	723	0	* 723 *	7965
NW	0	0	0	21	405	27327	* 27753 *	14261	1303	* 15564 *	43317
NNW	0	0	0	0	310	4631	* 4941 *	10550	50692	* 61242 *	66183
TOTAL	0	66	227	820	39478	71025	*111616 *	68887	85158	*154046 *	265662

TABLE 2.1-5

PEAK DAILY TOURISTS AND SEASONAL VISITORS WITHIN 30 MILES OF ST LUCIE UNIT 2

2030

Annular Sector	0-1	1-2	2-3	3-4	4-5	5-10	* Total 0-10 *	10-20	20-30	* Total 10-30 *	Total 0-30
N	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NNE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
NE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ENE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
E	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
ESE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SE	0	0	0	0	0	0	* 0 *	0	0	* 0 *	0
SSE	0	0	0	0	38014	27408	* 65422 *	16724	33723	* 50447 *	115869
S	0	0	0	185	193	6882	* 7260 *	29787	725	* 30512 *	37772
SSW	0	0	88	0	0	5930	* 6018 *	2193	4315	* 6508 *	12526
SW	0	16	62	0	1674	623	* 2375 *	2193	2056	* 4249 *	6624
WSW	0	49	0	8	2387	3325	* 5769 *	0	0	* 0 *	5769
W	0	16	39	461	448	417	* 1381 *	2468	0	* 2468 *	3849
WNW	0	0	91	330	4994	3501	* 8916 *	890	0	* 890 *	9806
NW	0	0	0	26	499	33634	* 34159 *	17554	1604	* 19158 *	53317
NNW	0	0	0	0	383	5700	* 6083 *	12986	62391	* 75377 *	81460
TOTAL	0	81	280	1010	48592	87420	*137383 *	84795	104814	*189609 *	326992

TABLE 2.1-6

TRANSIENT POPULATION: ATTENDANCE AT ATTRACTIONS AND EVENTS
1978-2030

		Annular Sector	Location	Time of Year	Number of Persons: 1978: Total for Events (of more than one day)	1978: Peak Daily	1978: Maximum	1980	1983	1990	2000	2010	2020	2030
A.	Attractions and Events Within 10 Miles of St Lucie Unit 2													
1.	Art on the Green Festival(1)*	NW 5-10	Indian River Memorial Park, Fort Pierce	January	40000	20000		20948	21422	25688	30428	35168	39908	44600
2.	Jensen Beach Fireworks(2)	SSE 5-10	Jensen Beach Causeway	July 4th		10000		10000	10000	10000	10000	10000	10000	10000
3.	Lawnwood Stadium (St Lucie County Schools)(3)	NW 5-10	Fort Pierce	Fall Football		6000	6000	6000	6000	6000	6000	6000	6000	6000
4.	Leif Erikson Day(2)	S 5-10	Town of Jensen Beach	October		2000		2095	2142	2569	3043	3517	3991	4460
5.	Outdoor Art Festival(2)	S 5-10	Town of Jensen Beach	March	5000	2500		2619	2678	3211	3804	4396	4989	5575
6.	Sailfish Regatta(4)	S 5-10	St Lucie River	May	10000	7000		7332	7498	8991	10650	12309	13968	15610
7.	St Lucie County Civic Center(5)	NW 5-10	Fort Pierce	March	40000	20000	5700**	20948	21422	25688	30428	35168	39908	44600
8.	Sandy Shoes Festival(6)	NW 5-10	Fort Pierce & Fairgrounds	January	7900	1500***		1607	1713	1962	2318	2673	3029	3384
9.	Sea Turtle Watch(2)	SSE 5-10	Jensen Beach	June		1500		1571	1607	1927	2282	2638	2993	3345

* See Sheet 4 for sources of information.
** Maximum seating capacity. Forty thousand attended an Auto Show on a walk-through basis over two days.
*** 1977 attendance. No festival was held in 1978.

TABLE 2.1-6

TRANSIENT POPULATION: ATTENDANCE AT ATTRACTIONS AND EVENTS
1978-2030

					Number of Persons									
					1978									
		Annular Sector	Location	Time of Year	Total for Events (of more than one day)	Peak Daily	Maximum	1980	1983	1990	2000	2010	2020	2030
B.	Attractions and Events Between 10 and 30 Miles of St Lucie Unit 2													
10.	Dodgertown Sports Complex[7]	NNW 20-30	Vero Beach	March		7405	10000	7541	7712	9248	10000	10000	10000	10000
11.	Jai Alai of Fort Pierce[8]	WNW 10-20	Fort Pierce	Year-Round		3200	4000	3352	3428	4000	4000	4000	4000	4000
12.	Martin County Fair[9]	S 10-20	Martin County Fair-grounds, in Stuart	March	27000	7559		7917	8096	9709	11500	13292	15083	16857
13.	Martin County High School Stadium[10]	S 10-20	Stuart	Fall Football		4500		4500	4500	4500	4500	4500	4500	4500
14.	St Lucie County Fair[11]	NW 20-30	St Lucie County Fair-grounds, in Fort Pierce	February	20800	8300		8693	8890	10660	12628	14595	16562	18509
15.	Vero Beach Senior High School Stadium[12]	NW 20-30	Vero Beach	Fall Football		8000		8000	8000	8000	8000	8000	8000	8000
C.	Attractions and Events Between 30 and 50 Miles of St Lucie Unit 2													
16.	Fish Fry, Volunteer Fire Department[13]	NW 40-50	Grant Brevard County	February	30000	15000		15711	16778	19266	22821	26375	29931	33450
17.	Horse Complex[14]	S 40-50	Palm Beach Fairgrounds	Year-Round		2000		2095	2142	2569	3043	3517	3991	4460
18.	Labor Day Rodeo and Bluegrass Convention[15]	WSW 30-40	Okeechobee City	September	12000	10000		10474	10711	12844	15214	17584	19954	22300

TABLE 2.1-6

TRANSIENT POPULATION: ATTENDANCE AT ATTRACTIONS AND EVENTS
1978-2030

					Number of Persons									
					1978									
		Annular Sector	Location	Time of Year	Total for Events (of more than one day)	Peak Daily	Maximum	1980	1983	1990	2000	2010	2020	2030
C.	Attractions and Events Between 30 and 50 Miles of St Lucie Unit 2 (Cont'd)													
19.	Lion Country Safari[+][16]	S 40-50	Route 441 Palm Beach County	Year-Round	-	-	-	-	-	-	-	-	-	-
20.	Offshore Sport Fishing Tournament[17]	NNW 30-40	Sebastian Inlet and Atlantic Ocean	May-June		500		524	536	[illegible]	761	879	998	1150
21.	P.G.A. Complex[18]	SSE 30-40	Palm Beach Gardens	Year-Round	--under construction--				50000[++]	50000	50000	50000	50000	50000
22.	Pahokee Fireworks[19]	SW 40-50	Hoover Dike in Pahokee	July 4th		3000		3000	3000	3000	3000	3000	3000	3000
23.	Palm Beach Auto Auction[20]	S 40-50	Plam Beach Fairgrounds	Year-Round		1000		1047	1071	1284	1521	1758	1995	2230
24.	Palm Beach Fairgrounds Speedway[21]	SSE 40-50	Palm Beach Fairgrounds	Year-Round		8000		8000	8000	8000	8000	8000	8000	8000
25.	Palm Beach Kennel Club[22]	S 40-50	West Plam Beach	January-May		5800		6075	6212	7450	8824	10199	11573	12934
26.	South Florida Fair[21]	WSW 30-40	Palm Beach Fairgrounds	January-February	470752	88000		92171	94257	113027	133883	154739	175595	196240
27.	Speckled Perch Festival[15]	WSW 30-40	Okeechobee City	March		5000		5237	5356	6422	7607	8792	9977	11150
28.	West Palm Beach Auditorium[23]	SSE 40-50	West Palm Beach	Year-Round		6000	6000	6000	6000	6000	6000	6000	6000	6000
29.	West Palm Beach Jai Alai[24]	SSE 40-50	Mangonia Park Palm Beach County	September-January		9000	9000	9000	9000	9000	9000	9000	9000	9000
30.	West Palm Beach Municipal Stadium[25]	SSE 40-50	West Palm Beach			6800	7000	7000	7000	7000	7000	7000	7000	7000

[+] Attendance figures are confidential and not available for use in this report.
[++] First World Championship Tournament scheduled for 1982.

TABLE 2.1-6

TRANSIENT POPULATION - ATTENDANCE AT ATTRACTIONS AND EVENTS
1978-2030

SOURCES OF INFORMATION

(1) Chairman, Art-on-the-Green Festival, Fort Pierce, Florida, Letter Dated November 17, 1978
(2) Executive Director, Jensen Beach Chamber of Commerce, Jensen Beach, Florida, Letter Dated November 17, 1978
(3) Maintenance Foreman, St Lucie County School Board, Ft Pierce, Florida, Letter Dated November 28, 1978
(4) Director, Stuart/Martin County Chamber of Commerce, Stuart, Florida, Letter Dated November 22, 1978
(5) Supervisor of Special Facilities, St Lucie County Civic Center, Ft Pierce, Florida, Letter Dated November 17, 1978
(6) Executive Secretary, Sandy Shoes Festival (1979), Fort Pierce, Florida, Letter Dated November 27, 1978
(7) Office of Eastern Division Manager, Los Angeles Dodgers Baseball Team, Dodgertown Sport and Conference Center, Vero Beach, Florida, Letter Dated November 17, 1978
(8) Associate Chief of Security, Jai Alai of Fort Pierce, Fort Pierce, Florida, Letter Dated November 17, 1978
(9) Fair Secretary, Martin County Fair Association, Stuart, Florida, Letter Dated November 20, 1978
(10) Athletic Director, Martin County High School, Stuart, Florida, Letter Dated November 28, 1978
(11) Fair Secretary, St Lucie County Fair, Fort Pierce, Florida, Letter Dated November 20, 1978
(12) Finance Officer, Indian River County Schools, Vero Beach, Florida, Letter Dated November 27, 1978
(13) Chairman, Fish Fry in Grant, Melbourne, Florida, Personal Communication, December 14, 1978
(14) Horse Complex, Palm Beach County Fairgrounds, West Palm Beach, Florida, Personal Communication, November 21, 1978
(15) Okeechobee Chamber of Commerce, Okeechobee, Florida, Letter Dated November 17, 1978
(16) Office of Public Relations, Lion County Safari, Royal Palm Beach, Florida, Letter Dated November 20, 1978
(17) Chairman, Offshore Sport Fishing Tournament, Sebastian, Florida, Letter Dated December 13, 1978
(18) Project Manager, PGA Complex, Florida Realty Building Company, West Palm Beach, Florida, Letter Dated December 11, 1978
(19) Office Manager, Pahokee Chamber of Commerce, Pahokee, Florida, Letter Dated November 20, 1978
(20) Palm Beach Auto Auction, Palm Beach County Fairgrounds, West Palm Beach, Florida, Personal Communication, December 11, 1978
(21) South Florida Fair, Palm Beach County Fairgrounds, West Palm Beach, Florida, Personal Communications, November 21 and 27, 1978
(22) Palm Beach Kennel Club - Greyhound Racing, West Palm Beach, Florida, Letter Dated November 21, 1978
(23) West Palm Beach Auditorium, West Palm Beach, Florida, Letter Dated November 22, 1978
(24) Office of Public Relations, West Palm Beach Jai Alai, West Palm Beach, Florida, Letter Dated November 21, 1978
(25) Spring Training Coordinator, Atlanta Braves, West Palm Beach Municipal Stadium, West Palm Beach, Florida, Letter Dated November 20, 1978

TABLE 2.1-7

TRANSIENT POPULATION: MAJOR INDUSTRIAL EMPLOYERS AND COLLEGES
1978-2030

		Annual Sector	Location	1978 Total Employment	1978 Peak Daily Employment	1980	1983	1990	2000	2010	2020	2030
A.	Major Industrial Employers											
1.	Grumman Aerospace[1]	S 10-20	Martin County Airport, Stuart	731	700	700	700	700	700	700	700	700
2.	Piper Aircraft[2]	NW 10-20	Vero Beach Municipal Airport Indian River County	2887	2000	2000	2000	2000	2000	2000	2000	2000
3.	Pratt & Whitney[3] Government Products Division	S 30-40	Route 770, South of Route 710 Palm Beach County	7261	6094	6094	6094	6094	6094	6094	6094	6094
				Total Enrollment	Peak Daily Enrollment							
B.	Major Colleges											
4.	Florida Institute of Technology[4]	SSE 5-10	Jensen Beach Campus Martin County		900	1050	1200	1200	1200	1200	1200	1200
5.	Indian River Community College[5]	NW 5-10	Fort Pierce Campus St Lucie County	11200	1500	2050	2417	2818	3486	4312	5334	6599
		S 10-20	Stuart Campus, Martin County	1280	171	234	276	322	398	492	609	753
		WSW 30-40	Okeechobee Campus, Okeechobee County	320	43	59	69	80	100	123	152	188
		MNW 20-30	Vero Beach Campus, Indian River County	3200	428	585	691	806	997	1233	1526	1888

B. Major Colleges

(1) Personal Communication, Personnel Department, Grumman Aerospace, November 30, 1978.

(2) Personal Communication, Personnel Department, Piper Aircraft Corp, December 4, 1978.

(3) Personal Communication, Employment Office, Pratt & Whitney Aircraft, November 30, 1978.

(4) Personal Communication, Student Activities Office, Florida Institute of Technology, Jensen Beach Campus, November 27, 1978.

(5) Personal Communication, Office of the Vice President, Indian River Community College, Fort Pierce Campus, November 28, 1978.

TABLE 2.1-8

TRANSIENT POPULATION: AVERAGE DAILY PASSENGERS ON MAJOR ROADS WITHIN 30 MILES OF ST LUCIE UNIT 2

1978-2030

Highways and State Roads Within 10 Miles of St Lucie Unit 2

Route	County	Station Number	Estimated Average Daily Number of Passengers[2] 1978	1980	1983	1990	2000	2010	2020	2030
SR A1A	St Lucie	114 (North Beach Causeway)	2,802	2,935	3,134	3,599	4.259	4,926	5,590	6,248
SR 605	St Lucie	268	2,505	2,624	2,802	3,217	3,808	4,404	4,997	5,586
US 1	St Lucie	121	14,357	15,038	16,058	18,440	21,823	25,240	28,642	32,016
SR 607A	St Lucie	199	6,525	6,834	7,298	8,381	9,918	11,471	13,017	14,551
SR 68	St Lucie	151	8,271	8,663	9,251	10,623	12,572	14,540	16,501	18,444
SR 611	St Lucie	274	2,172	2,275	2,429	2,790	3,301	3,818	4,333	4,844
SR 70	St Lucie	106	5,910	6,190	6,610	7,591	8,983	10,390	11,790	13,179
I-91/ Florida's Turnpike	St Lucie	Southbound	15,151	15,869	16,946	19,460	23,030	26,635	30,226	33,787
SR 709	St Lucie	279	990	1,037	1,107	1,272	1,505	1,740	1,975	2,208
I-91/ Florida's Turnpike	St Lucie	Northbound	25,541	26,752	28,568	32,805	38,822	44,901	50,954	56,956
US 1	Martin	113 (Roosevelt Bridge/Northbound)	20,922	21,911	23,399	26,862	31,778	36,767	41,731	46,647
SR A1A	Martin	144	8,516	8,920	9,525	10,938	12,944	14,971	16,989	18,991
		Highways Within 30 Miles of St Lucie Unit 2								
I-95	Indian River	Southbound	9,971	10,444	11,153	12,807	15,156	17,529	19,892	22,235
I-91/ Florida's Turnpike	Okeechobee	Southbound	15,151	15,869	16,946	19,460	23,030	26,635	30,226	33,787
I-95/ Florida's Turnpike	Palm Beach	Northbound	26,527	27,782	29,668	34,059	40,292	46,618	52,911	59,144

(1) State of Florida, Dept of Transportation, Bureau of Planning assigns code numbers to each station where average daily traffic (ADT) counts are taken in each county.

(2) See Methodology, Section 2.1.3.8.2.

TABLE 2.1-9

TRANSIENT POPULATION: AVERAGE DAILY PASSENGERS BY RAIL AND AIR WITHIN 50 MILES OF ST LUCIE UNIT 2
1978-2030

	County	Location	1978	1980	1983	1990	2000	2010	2020	2030
A. Rail										
1. Amtrak - Seaboard Coast Line(1)	-	Sebring - West Palm Beach	389(2)	195(3)	206	240	289	338	387	436
B. Air										
2. West Palm Beach International Airport(4)	Palm Beach	West Palm Beach	4,878(2)	5,387	7,086	12,258	15,163	18,068	20,973	23,878

(1) Peak daily capacity (that is, all seats available on all six trains on the line on one day) was 2,474 in 1978 (August). Personal Communication, Route Analyst, Eastern Routes, Marketing Research, Amtrak, Washington, DC, November 22, 1978.

(2) See Methodology, Section 2.1.3.8.

(3) In May, 1979, Congress accepted a Department of Transportation plan to reduce service to Florida from three trains each day to one train. It is expected that ridership will be reduced to half the 1978 levels with this change in service. Sources: Personal Communication, Manager - Eastern Routes, Marketing Research, Amtrak, Washington, DC, May 22, 1979.

(4) Data include implanements and deplanements. Personal Communication, Director of Planning, Palm Beach International Airport, West Palm Beach, Florida, November 30, 1978.

TABLE 2.1-10

TRANSIENT POPULATION: AVERAGE DAILY PASSENGERS ON WATERWAYS WITHIN 30 MILES OF ST LUCIE 2
1978-2030

	County	Location	1978	1980	1983	1990	2000	2010	2020	2030
A. Waterways Within 30 Miles of St Lucie 2										
1. Intracoastal Waterway(1)	--	Jacksonville - Miami via Indian River	1,490	1,561	1,667	1,914	2,267	2,620	2,973	3,323
2. Fort Pierce Harbor(1)	St Lucie	Fort Pierce	22	23	25	28	33	39	44	49
3. St Lucie Canal(2)	Martin	Lake Okeechobee/Port Mayaca - Stuart	108	113	121	139	164	190	216	241
B. Bridges Within 10 Miles of St Lucie 2										
4. Jensen Beach Bridge(3)	Martin	Indian River at Jensen Beach	46	48	51	59	70	81	92	103
5. Roosevelt Bridge(4)	Martin	St Lucie River in Stuart	89	93	100	114	135	157	178	198
6. St Lucie Bridge(5)	Martin	St Lucie River, Stuart-Seawall's Point	62	65	69	80	94	109	124	138
7. Stuart Causeway (Indian River Bridge)	Martin	Indian River, Sewall's Point - Hutchinson Island	60	63	67	77	91	106	120	134

(1) US Army Corps of Engineers, Waterborne Commerce of the United States, Part 1, 1976 Jacksonville District pp 135, 137

(2) Personal Communication, Lockmaster, St Lucie Lock & Dam, Stuart, Florida, September 14 and October 10, 1978

(3) Personal Communication, Bridgetender, Jensen Beach Bridge, Jensen Beach, Florida, September 14 and November 10, 1978

(4) Personal Communication, Engineering Department, Martin County Department of Transportation, September 14, 1978

(5) Personal Communication, Bridgetender, St Lucie Bridge, Stuart, Florida, September 14, 1978

(6) Personal Communication, Bridgetender, Stuart Causeway, Sewall's Point, Florida, September 14, 1978

TABLE 2.1-11

LOCATION BY ANNULAR SECTOR OF PARAMETERS NEAREST TO ST. LUCIE UNIT 2, NOVEMBER, 1978[a,b,c]

CATEGORY	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
Milk Cows	0	0	0	0	0	0	0	L	L	L	L	L	14.0/ 260°	L	L	L
Milk Goats	0	0	0	0	0	0	0	L	L	5.95/ 204°	2.2/ 220°	L	L	L	L	L
Meat Animal	0	0	0	0	0	0	0	L	L	5.1/ 205°	5.2/ 209°	L	3.2/ 270°	4.5/ 290°	L	L
Vegetable Gardens	0	0	0	0	0	0	0	L	L	2.3/ 208°	2.0/ 225°	1.9/ 249°	3.5/ 273°	3.0/ 296°	L	L
Residences	0	0	0	0	0	0	0	5.0/ 151°	4.1 180°	2.3/ 202°	2.0/ 226°	1.9/ 247°	2.1/ 270°	2.8/ 292°	4.8/ 311°	5.0/ 340°

1. 0 = Ocean Areas
2. L = Land Areas: no numerical entry indicates that a ground survey of an established 22 1/2 degree radial sector showed no evidence of any activity.
3. 14.0/260° = 14.0 miles from the center of the reactor in the 260° direction, measured clockwise from north

Source: a) Letter L-76-416 to D L Ziemann, Chief Operating Reactors Branch #2, Division of Operating Reactors, USNRC, Washington, DC, from R E Uhrig, Vice President of Florida Power & Light on December 7, 1976.

b) Letter FLO-1375, to L Tsakiris, Project Manager of Ebasco Services, from C S Kent, Project Manager, Florida Power and Light, March 14, 1979.

c) Florida Power & Light, St Lucie Unit 1, Docket No 50-335, Annual Radiological Environmental Monitoring Report, 1978.

TABLE 2.1-12

LAND USES AND LAND COVER WITHIN FIVE MILES OF ST LUCIE UNIT 2

Level I Land Use Classification	Acreage	Percent of Total	Level II Land Use Classification	Acreage	Percent of Total	Level III Land Use Classification	Acreage	Percent of Total
1. URBAN OR BUILT-UP LAND	3,541	7.0	11. Residential	2,300	4.6	111. Single-family Residences	2,220	4.5
						112. Multiple-family Residences	20	*
						116. Transient Lodgings	60	.1
			12. Commercial and Services	28	*	122. Retail, Commercial Services	22	*
						123. Institutional Services	6	*
			13. Industrial	14	*	131. Light Industrial	14	*
			14. Transportation, Communications, and Utilities	964	2.0	141. Highway, Principal Road	210	.4
						142. Railroad	50	.1
						143. St Lucie 1 & 2 Facilities	300	.6
						144. Transmission Lines	386	.8
						145. Utility Storage	18	*
			17. Other Urban or Built-up Land	235	.5	171. Cemetery	10	*
						172. Undeveloped Land	37	.1
						173. Recreation Facilities	188	.4
2. AGRICULTURAL LAND	541	1.1	21. Cropland and Pasture	449	.9	212. Citrus Groves	449	.9
			22. Other Agricultural Land	92	.2	221. Nurseries	9	*
						222. Old Field	83	.2
4. FOREST/MARSH COVER+	10,653	21.2	41. Coniferous Forest/ Freshwater Marsh	7,910	15.6	410. Pine Flatwood Forest/ Freshwater Marsh	5,594	11.1
						411. Freshwater Marsh	2,316	4.6
			42. Other Forested Wetland	2,743	5.5	421. Mangrove	2,743	5.5

TABLE 2.1-12

Level I Land Use Classification	Acreage	Percent of Total	Level II Land Use Classification	Acreage	Percent of Total	Level III Land Use Classification	Acreage	Percent of Total
5. WATER	34,849	69.3	51. Freshwater	1,243	2.5	510. Streams and Canals	113	.2
						511. Lakes	1,130	2.3
			52. Fresh/Salt Water	10,656	21.2	520. Estuary	10,656	21.2
			55. Salt Water	22,950	45.6	550. Open Marine Water	22,950	45.6
7. BARREN LAND	682	1.4	71. Natural Barren Land	97	.2	710. Beaches	97	.2
			74. Man-made Barren Land	585	1.2	740. Transitional Areas	390	.8
						741. Extractive	195	.4
	50,266	100%		50,266	100%		50,266	100%

+The forest cover is to a great extent concentrated in a transitional area which is primarily marshy but includes relatively dry sites. In addition, the Florida land use/cover classification system considers mangroves as a type of wetland - hardwood forest. To account for these considerations, the USGS categories of Forest and Wetlands were combined.

*Less than .1%

TABLE 2.1-13

TOTAL BEEF CATTLE AND BEEF SLAUGHTER WITHIN 0-50 MILES OF SITE[a,b]

County	Total No. of Head[c]	Total Slaughter/Yr	kg/yr (10^3)
Brevard	2,250	675	231.5
Glades	3,000	900	308.6
Highlands	1,680	504	172.8
Indian River	15,000	4,500	1,543.1
Martin	35,000	10,500	3,600.7
Okeechobee	36,400	10,920	3,744.7
Osceola*	-	-	-
Palm Beach	17,600	5,280	1,810.6
St. Lucie	26,000	7,800	2,674.8
	136,930	41,079	14,086.8

*No beef production assumed since that portion of county within 0-50 miles of site is wetland, according to USGS maps.

a) 1977 Florida and USDA official estimates from, "Florida Agricultural Statistics-Livestock Summary 1977," Florida Crop and Livestock Reporting Service, 1222 Woodward St., Orlando, Florida 32803.

b) Only those portions of county within 0-50 mile radius of site considered, excluding wetland areas.

c) Estimated from county totals assuming equal distribution of cattle throughout county.

TABLE 2.1-14

DAIRY HERDS AND MILK PRODUCTION[a,b]
WITHIN 50 MILES OF ST LUCIE UNIT 2

County	Number of Dairies	Heifers Over 500 lb	Heifers Under 500 lb	No. of Milk Cows	1977 Annual Milk Production (1000 lb)
Brevard	1	85	75	300	3,000
Highlands	1	145	140	720	7,600
Indian River	3	445	310	1,830	15,900
Martin	6	800	710	2,710	25,400
Okeechobee	20	7,260	6,440	22,300	226,000
Palm Beach	6	430	590	4,140	33,900
St. Lucie	4	595	420	2,450	21,200
Total	41	9,760	8,685	34,450	333,000

(a) From "Dairy Summary 1977 - Florida Agricultural Statistics," Florida Crop and Livestock Reporting Service, 1222 Woodward Street, Orlando, Florida 32803.

(b) Estimated from county totals for 0-50 mile radius, assuming equal distribution of dairies throughout county.

TABLE 2.1-15

MILK UTILIZATION FROM DAIRY HERDS-WITHIN 50 MILES OF ST. LUCIE UNIT 2[(a)]

1. Average Annual Milk Production per Cow = 9,666 lbs = 4,385 kgs

2. Milk Fat (average) = 3.5%

3. 1977 Annual Milk Production[(b)] = 330.0×10^6 lbs = 151.0×10^6 kgs

4. Milk Utilization

   (a) Used on Farm = 3.1×10^6 lbs = 1.4×10^6 kgs

      1) For milk, cream, butter = 2.0×10^6 lbs = 0.9×10^6 kgs

      2) Fed to calves = 1.1×10^6 lbs = 0.5×10^6 kgs

   (b) Milk Sold Directly to Consumers = 5.1×10^6 lbs = 2.3×10^6 kgs

   (c) Milk Sold to Plants for Manufacturing Dairy Products = 324.8×10^6 lbs = 147.3×10^6 kgs

      1) For frozen products-ice cream, ice milk, sherbert = 7.6×10^6 gal

      2) For cottage cheese -curd, creamed = 8.9×10^6 lbs = 4.0×10^6 kgs

      3) For skim milk and butter milk products = 23.2×10^6 lbs = 10.5×10^6 kgs

      4) For whole milk products = 61.0×10^6 lbs = 27.7×10^6 kgs

(a) Estimated 1977 data from "Florida Agricultural Statistics - Dairy Summary, 1977," prepared by Florida Crop and Livestock Reporting Service, 1222 Woodward Street, Orlando, Florida 32803 (July 1978)

(b) Estimated from county data.
Only accounts for those portions of county within 0-50 mile radius, assuming equal distribution of dairy herds.

TABLE 2.1-16

EGG PRODUCTION WITHIN 50 MILES OF ST LUCIE UNIT 2[a]

County[b]	Number of Layers	Number of Eggs/Day
Brevard	4,500	2,925
Glades	750	488
Highlands	750	488
Indian River	25,000	16,250
Martin	25,000	16,250
Okeechobee	16,250	10,563
Palm Beach	11,950	7,768
St. Lucie	25,000	16,250

(a) 1977 data from "Poultry Summary 1977 - Florida Agricultural Statistics", Florida Crop and Livestock Reporting Service, 1222 Woodward Street, Orlando, Florida 32803.

(b) Accounts only for those portions of county within 50 miles of plant site; assumes equal distribution of layers throughout county.

TABLE 2.1-17

FLORIDA COMMERCIAL VEGETABLES
PRODUCTION IN 0-50 MILE RADIUS STUDY AREA[a,b]

County	Principal Species	Production Center	Acres 1976-77	Harvested 1973-74
Brevard	Tomatoes	Fort Pierce	(1)	126
	Watermelon		(1)	36
Glades	Tomatoes	Pahokee	60	101
Highlands	Corn		(1)	(2)
	Potatoes		(1)	(2)
Indian River	Tomatoes	Fort Pierce	(1)	700
	Watermelon		(1)	200
Okeechobee	Tomatoes	Pahokee	273	754
	Watermelon		228	650
Martin	Potatoes	Stuart	7503	(2)
	Tomatoes		(1)	500
	Watermelon		(1)	200
Palm Beach	Beans	Pompano	6,070	7,816
	Cabbage	Pahokee	(1)	404
	Celery		(1)	3,476
	Corn		(1)	16,280
	Cucumbers		552	428
	Eggplant		340	328
	Escarole		(2)	1,900
	Lettuce		(2)	2,272
	Peppers		1,020	880
	Potatoes		(1)	480
	Radishes		(2)	5,320
	Spinach		(2)	520
	Squash		560	540
	Tomatoes		668	565
St Lucie	Tomatoes	Fort Pierce	745	875
	Watermelon		(1)	200

TABLE 2.1-17

County	Principal Species	Production Center	Acres 1976-77	Harvested 1973-74
Other Counties[c]	Snap Beans		1,270	1,190
	Cabbage		2,900	3,340
	Celery		(2)	(2)
	Sweet Corn		(2)	(2)
	Cucumber		2,550	2,190
	Eggplant		680	540
	Green Peppers		870	1,660
	Potatoes[3]		3,650	4,950
	Squash		3,000	2,180
	Strawberries		300	370
	Tomatoes		870	1,165
	Watermelon		4,000	800

(1) Included with other counties

(2) Figures not available

(3) Winter harvest only

(a) From "Vegetable Summary 1977 - Florida Agricultural Statistics", Florida Crop and Livestock Reporting Service, Orlando, Florida 32803.

(b) Estimated from county data. Accounts only for those portions of county within 0-50 miles of site. Assumes equal distribution of vegetable crops within county.

(c) Counties throughout the state whose production was not large enough to warrant special statistics by individual county.

TABLE 2.1-18

FLORIDA COMMERCIAL VEGETABLE ACREAGE AND PRODUCTION - SOUTHEAST COUNTIES 1976-77[(a)]

Crop	Acreage Planted	Acreage Harvested	Yield Per Acre	SE Production 1,000 Units	State Production 1,000 Units
Snap Beans	34,550	24,600	125	3,073	3,680
Sweet Corn	17,600	9,500	210	1,995	11,990
Cucumbers	1,850	1,700	279	474	3,802
Eggplant	1,350	1,175	760	893	1,367
Green Peppers	3,750	2,650	478	1,268	6,720
Potatoes (Winter)	7,900	7,700	184	1,434	1,602
Squash	5,600	5,300	155	822	1,893
Strawberries	100	100	1,200	120	2,127
Tomatoes	18,900	11,580	555	5,941	24,210

(a) From "Vegetable Summary 1977-Florida Agricultural Statistics", Reporting Service, 1222 Woodward Street, Orlando, Florida 32803

TABLE 2.1-19

FLORIDA COMMERCIAL VEGETABLE PRODUCTION, CROP YEAR 1976-77[(a)]

Commodity	Unit	Net Wt. lb/Unit	Acreage Planted	Acreage Harvested	Average Yield per Acre Units	Average Yield per Acre lb	Average Yield per Acre kg	Production 1,000 Units
Beans	Bushel	30	39,600	29,500	125	3,750	1,701	3,680
Cabbage	Crate	50	17,100	16,300	453	22,650	10,274	7,385
Celery	Crate	60	10,700	10,100	578	34,680	15,731	5,833
Sweet Corn	Crate	42	63,300	50,300	238	9,996	4,534	11,990
Cucumbers	Bushel	48	16,100	15,000	253	12,144	5,509	3,802
Eggplant	Bushel	33	2,250	1,950	701	23,133	10,493	1,367
Escarole	Crate	25	6,900	6,000	513	12,825	5,817	3,080
Lettuce	Cwt.	100	11,700	9,500	151	15,100	6,849	1,430
Peppers	Bushel	25	21,100	16,800	400	10,000	4,536	6,720
Potatoes	Sack	100	30,500	30,100	206	20,600	9,344	6,207
Radishes	Carton	11.5	31,000	27,300	291	3,347	1,578	7,933
Squash	Bushel	42	12,600	12,000	158	6,636	3,010	1,893
Strawberries	Flat	10.25	1,500	1,500	1,418	14,535	6,593	2,127
Tomatoes	Carton	30	43,200	34,000	751	22,530	10,220	24,210
Watermelons	Cwt.	100	65,000	51,000	175	17,500	7,938	8,925

(a) From "Vegetable Summary 1977 - Florida Agricultural Statistics", Florida Crop and Livestock Reporting Service, 1222 Woodward Street, Orlando, Florida 31803

TABLE 2.1-20 Sheet 1 of 2

FLORIDA CITRUS ACREAGE AND PRODUCTION 1976-77[(a)]

County	Fruit	Harvest Unit	Unit Wt, lb	Est. Prod. 1,000 Boxes	Total Acreage
Brevard[(b)]	All Oranges[1]	Box	90	807	2,517
	Early & Mids	Box	90	507	1,351
	Valencias	Box	90	300	1,135
	All Grapefruit[1]	Box	85	203	636
	Seedy	Box	85	9	53
	Seedless	Box	85	194	527
	Specialty Fruit[2]	Box	90	39	201
	All Citrus	Box		1,049	3,354
Glades[(b)]	All Oranges[1]	Box	90	33	96
	Early & Mids	Box	90	24	59
	Valencias	Box	90	9	37
	All Grapefruit[1]	Box	85	2	5
	Seedy	Box	85	0	0
	Seedless	Box	85	2	5
	Specialty Fruit[2]	Box	90	1	12
	All Citrus	Box		36	113
Highlands[(b)]	All Oranges[1]	Box	90	265	847
	Early & Mids	Box	90	98	225
	Valencias	Box	90	166	603
	All Grapefruit[1]	Box	85	71	143
	Seedy	Box	85	24	57
	Seedless	Box	85	46	79
	Specialty Fruit[2]	Box	90	25	131
	All Citrus	Box		361	1,121
Indian River	All Oranges[1]	Box	90	5,120	22,947
	Early & Mids	Box	90	2,937	10,972
	Valencias	Box	90	2,183	11,572
	All Grapefruit[1]	Box	85	8,537	30,477
	Seedy	Box	85	42	350
	Seedless	Box	85	8,495	28,182
	Specialty Fruit[2]	Box	90	427	2,782
	All Citrus	Box	90	14,084	56,206
Okeechobee[(b)]	All Oranges[1]	Box	90	482	1,872
	Early & Mids	Box	90	284	864
	Valencias	Box	90	198	999
	All Grapefruit[1]	Box	85	170	636
	Seedy	Box	85	1	3
	Seedless	Box	85	169	632
	Specialty Fruit[2]	Box	90	31	198
	All Citrus	Box		683	370

TABLE 2.1-20 Sheet 2 of 2

County	Fruit	Harvest Unit	Unit Wt, lb	Est. Prod. 1,000 Boxes	Total Acreage
Martin	All Oranges[1]	Box	90	6,297	29,849
	Early & Mids	Box	90	3,078	11,678
	Valencias	Box	90	3,219	17,580
	All Grapefruit[1]	Box	85	1,901	5,682
	Seedy	Box	85	15	213
	Seedless	Box	85	1,886	5,340
	Specialty Fruit[2]	Box	90	288	4,733
	All Citrus	Box		8,486	40,264
Palm Beach[(b)]	All Oranges[1]	Box	90	1,080	4,126
	Early & Mids	Box	90	726	2,390
	Valencias	Box	90	354	1,734
	All Grapefruit[1]	Box	85	603	1,628
	Seedy	Box	85	15	119
	Seedless	Box	85	588	1,510
	Specialty Fruit[2]	Box	90	229	1,912
	All Citrus	Box		1,912	7,669
St Lucie	All Oranges[1]	Box	90	8,984	36,619
	Early & Mids	Box	90	4,668	14,997
	Valencias	Box	90	4,316	21,009
	All Grapefruit[1]	Box	85	9,306	30,050
	Seedy	Box	85	39	372
	Seedless	Box	85	9,267	27,746
	Specialty Fruit[2]	Box	90	1,072	7,243
	All Citrus	Box		19,362	73,912
State Total	All Oranges[1]	Box	90	186,800	628,567
	Early & Mids	Box	90	115,000	318,832
	Valencias	Box	90	71,800	298,236
	All Grapefruit	Box	85	51,500	137,909
	Seedy	Box	85	9,100	23,296
	Seedless	Box	85	42,400	107,944
	Specialty[2]	Box	90	13,830	85,893
	All Citrus	Box		252,130	852,369

1) Includes unidentified variety acreage

2) Includes lemons, limes, tangelos and tangerines

(a) From "Citrus Summary 1977 - Florida Agricultural Statistics", Florida Crop and Livestock Reporting Service, 1222 Woodward Street, Orlando, Florida 32803

(b) Estimated from county citrus data for 0-50 mile radius assuming equal distribution of citrus throughout county.

TABLE 2.1-21

SUGARCANE PRODUCTION WITHIN 50 MILES OF ST LUCIE UNIT 2[a]

County	Acres Harvested		Yield Per Acre (tons)		Production (tons)	
	1976	1977	1976	1977	1976	1977
Glades	1,120	1,120	33.2	29.5	37,170	33,040
Martin	3,000	3,000	29.0	28.0	87,000	84,000
Palm Beach	137,000	104,000	32.4	29.8	3,378,000	3,093,000
State Total	286,000	285,000	32.6	29.8	9,324,000	8,493,000

(a) From "Field Crops Summary 1977 - Florida Agricultural Statistics", Florida Crop and Livestock Reporting Service, 1222 Woodward Street, Orlando, Florida 32803.

TABLE 2.1-22

FLORIDA MARINE LANDINGS: FOOD FISH, SHRIMP AND SHELLFISH
MARINE LANDINGS BY COUNTY, 1976[a]

County	Fish	Weight (kg)	Shellfish, et al	Weight (kg)
Brevard	Amberjack	6,804	Clams	22,928
	Angelfish	1,242	Crab, Blue (Hard)	715,338
	Blue Runner	526	Crab, Blue (Soft)	107
	Bluefish	70,760	Crab, Stone	1,378
	Bonito	1,437	Lobster, Spiny	1,558
	Catfish, Fresh-Water	710	Oysters	11,185
	Catfish, Sea	1,374	Scallops	193,460
	Cigarfish	9	Shrimp	237,673
	Cobia	642	Squid	1,275
	Crevalle (Jacks)	3,206	Total Shellfish, et al	1,184,902
	Croaker	865		
	Dolphin	3,081		
	Drum, Black	5,369		
	Drum, Red	10,293		
	Flounder	6,031		
	Goatfish	5,107		
	Grouper and Scamp	49,031		
	Grunts	1,569		
	Jewfish	6,752		
	King Mackerel	269,194		
	King Whiting	61,418		
	Menhaden	85,278		
	Mullet, Black	283,482		
	Mullet, Silver	57,654		
	Permit	1,090		
	Pigfish	1,393		
	Pompano	41,118		
	Sand Perch (Mojarra)	803		
	Scup	762		
	Sea Bass	2,356		
	Sea Trout	46,001		
	Sharks	1,179		
	Sheepshead	24,232		
	Snapper	49,198		
	Spanish Mackerel	195,972		
	Spot	34,031		
	Swordfish	37,486		
	Tenpounder	159		
	Tilefish	9,091		
	Trigger Fish	1,402		
	Tripletail	406		
	Wahoo	405		
	Warsaw	3,797		
	Unclassified for Food	17,948		

TABLE 2.1-22

County	Fish	Weight (kg)	Shellfish, et al	Weight (kg)
	Unclassified for Miscellaneous	29,778		
	Total Fish	1,430,449		
Indian River	Amberjack	321	Clams, Hard	2,922
	Angelfish	101	Crab, Blue (Hard)	4,137
	Blue Runner	1,165	Lobster, Spiny	258
	Bluefish	36,743	Oysters	452
	Bonito	306	Total Shellfish, et al	7,769
	Catfish, Sea	60		
	Cobia	1,482		
	Creville (Jack)	981		
	Croaker	15		
	Dolphin	1,005		
	Drum, Black	464		
	Drum, Red	2,805		
	Flounder	162		
	Goatfish	86		
	Grouper and Scamp	16,487		
	Jewfish	1,083		
	King Mackerel	374,212		
	King Whiting	3,043		
	Menhaden	373,970		
	Mullet, Black	105,069		
	Mullet, Silver	3,402		
	Permit	275		
	Pigfish	319		
	Pompano	49,539		
	Sea Bass	3,082		
	Sea Trout	27,850		
	Sheepshead	607		
	Snapper	28,589		
	Spanish Mackerel	79,510		
	Spot	77,787		
	Tilefish	5,582		
	Trigger Fish	236		
	Tripletail	88		
	Wahoo	49		
	Unclassified for Food	13,416		
	Total fish	1,209,890		
Martin	Amberjack	2,215	Lobster, Spiny	885
	Angelfish	327	Total Shellfish, et al	885
	Blue Runner	14,206		
	Bluefish	237,057		
	Bonito	47		
	Catfish, Fresh-Water	503		
	Catfish, Sea	5,644		

TABLE 2.1-22

County	Fish	Weight (kg)	Shellfish, et al	Weight (kg)
Martin (Cont'd)	Cigarfish	546		
	Cobia	391		
	Crevalle (Jack)	15,742		
	Croaker	20,513		
	Dolphin	129		
	Drum, Black	15,965		
	Drum, Red	580		
	Eel	14		
	Flounder	665		
	Goatfish	35,648		
	Grouper and Scamp	2,597		
	Grunts	1,178		
	Herring, Thread	26,095		
	Hogfish	20		
	Jewfish	7,161		
	King Mackerel	43,413		
	King Whiting	10,783		
	Menhaden	7,636		
	Mullet, Black	102,281		
	Mullet, Silver	6,660		
	Permit	521		
	Pigfish	290		
	Pompano	37,419		
	Sand Perch	47,342		
	Scup	10		
	Sea Bass	532		
	Sea Trout	7,549		
	Shark	1,393		
	Sheepshead	45,711		
	Snapper	5,948		
	Spanish Mackerel	1,441,118		
	Spanish Sardines	7,278		
	Spot	16,477		
	Swordfish	3,037		
	Tilapia (Nile Perch)	136		
	Tilefish	1,344		
	Trigger Fish	87		
	Tripletail	604		
	Warsaw	38		
	Unclassified for Food	12,699		
	Unclassified for Miscellaneous	51,165		
	Total Fish	2,238,715		
Palm Beach	Amberjack	1,464	Crab, Blue (Hard)	953
	Blue Runner	2,300	Lobster, Spiny	16,986
	Bluefish	50,612	Total Shellfish, et al	17,939
	Bonito	295		

TABLE 2.1-22 Sheet 4 of 5

County	Fish	Weight (kg)	Shellfish, et al	Weight (kg)
Palm Beach (Cont'd)	Catfish, Fresh-Water	81		
	Catfish, Sea	78		
	Cigarfish	23		
	Cobia	249		
	Crevalle (Jack)	199		
	Croakes	560		
	Dolphin	854		
	Drum, Black	10,229		
	Drum, Red	726		
	Flounder	6		
	Goatfish	1,037		
	Grouper and Scamp	3,074		
	Grunt	363		
	Hogfish	11		
	Jewfish	35		
	King Mackerel	340,458		
	King Whiting	4,635		
	Mullet, Black	3,834		
	Mullet, Silver	1,316		
	Permit	106		
	Pigfish	11		
	Pompano	3,187		
	Sand Perch	4,458		
	Scup	20		
	Sea Bass	5		
	Sea Trout	477		
	Shark	81		
	Sheepshead	4,465		
	Snapper	23,792		
	Spanish Mackerel	933,340		
	Spot	2,337		
	Tilefish	507		
	Tripletail	24		
	Wahoo	434		
	Warsaw	34		
	Unclassified for Food	5,433		
	Unclassified for Miscellaneous	77		
	Total Fish	1,401,226		
St Lucie	Amberjack	15,895	Crab, Blue (Hard)	1,633
	Angelfish	489	Lobster, Spiny	3,110
	Barracuda	998	Total Shellfish, et al	4,743
	Blue Runner	10,795		
	Bluefish	125,705		
	Bonito	6,592		
	Cobia	2,294		
	Crevalle (Jack)	4,132		

TABLE 2.1-22 Sheet 5 of 5

County	Fish	Weight (kg)	Shellfish, et al	Weight (kg)
St Lucie (Cont'd)	Croaker	1,067		
	Dolphin	6,032		
	Drum, Black	4,534		
	Drum, Red	1,227		
	Flounder	1,167		
	Goatfish	599		
	Grouper and Scamp	32,929		
	Grunts	52		
	Hogfish	12		
	Jewfish	2,642		
	King Mackerel	1,093,989		
	King Whiting	2,744		
	Menhaden	16,815		
	Mullet, Black	63,329		
	Mullet, Silver	18,629		
	Permit	1,220		
	Pigfish	336		
	Pompano	44,037		
	Sand Perch	3,843		
	Scup	341		
	Sea Bass	694		
	Sea Trout	13,866		
	Shad	66		
	Shark	72		
	Sheepshead	7,322		
	Snapper	24,859		
	Spanish Mackerel	1,636,766		
	Spot	31,125		
	Swordfish	3,701		
	Tenpounder	48,932		
	Tilefish	770		
	Tripletail	420		
	Wahoo	937		
	Warsaw	1,111		
	Unclassified for Food	22,497		
	Unclassified for Miscellaneous	323		
	Total Fish	3,255,905		

(a) From "Summary of Florida Commercial Marine Landings, 1976", Florida Department of Natural Resources, Division of Marine Resources, Tallahassee, Florida.

TABLE 2.1-23

COMMERCIAL MARINE LANDINGS OF
COUNTIES WITHIN 0-50 MILE RADIUS (10^3 kg)[a]

County	1976	1975	Percent Change
Brevard			
Fish	1,430.5	1,571.1	- 8.9
Shellfish	1,184.9	1,854.1	-36.1
Total	2,615.4	3,425.2	-23.6
Indian River			
Fish	1,209.9	1,155.5	+ 4.7
Shellfish	7.8	27.7	-71.8
Total	1,217.7	1,183.2	+ 2.9
St Lucie			
Fish	3,255.9	2,159.2	+50.8
Shellfish	4.7	7.2	-34.7
Total	3,260.6	2,166.4	+50.5
Martin			
Fish	2,238.7	1,380.7	+62.1
Shellfish	0.9	1.3	-31.8
Total	2,239.6	1,382.0	+62.1
Palm Beach[b]			
Fish	1,401.2	873.2	+60.5
Shellfish	17.9	36.2	-50.5
Total	1,419.1	909.4	+56.0
Grand Total	10,752.4	9,066.2	+18.6
Fish	9,536.2	7,139.7	+33.6
Shellfish	1,216.2	1,926.5	-36.9

(a) From "Summary of Florida Commercial Marine Landings, 1976", Florida Department of Natural Resources, Division of Marine Resources, Tallahassee, Florida

TABLE 2.1-24

SUMMARY OF MARINE LANDINGS BY COUNTY, 1976[a]

County	Food Fish Weight (kg)	Non-Food Fish Weight (kg)	Shellfish (excluding Shrimp) Weight (kg)	Shrimp Weight (kg)	Total Weight (kg)
Brevard	1,147,852	282,597	947,229	237,673	2,615,351
Indian River	835,920	373,970	7,769	0	1,217,659
Martin	221,863	16,853	885	0	239,601
Palm Beach	1,401,123	103	17,939	0	1,419,165
St Lucie	3,239,018	16,887	4,743	0	3,260,648
Total	6,845,776	690,410	978,565	237,673	8,752,424

(a) From "Summary of Florida Commercial Marine Landings, 1976", Florida Department of Natural Resources, Division of Marine Resources, Tallahassee, Florida.

TABLE 2.1-25

J.W. CORBETT WILDLIFE MANAGEMENT AREA

HUNTING DATA (a)

Species Common Name	Number Taken Sept 9, 1977 - Jan 7, 1978	Number Taken Jan 8, 1978 - Mar 26, 1978
Deer	71	86
Dove	53	468
Duck	15	6
Hog	197	175
Quail	658	10,569
Rabbit	8	82
Raccoon	13	7
Snipe	226	661
Squirrel	50	43
Turkey	0	3

(a) From data provided by B. Lusander, J.W. Corbett Wildlife Management District, January, 1979.

TABLE 2.1-26

RECREATIONAL WATER USE WITHIN 50 MILES OF ST LUCIE UNIT 2

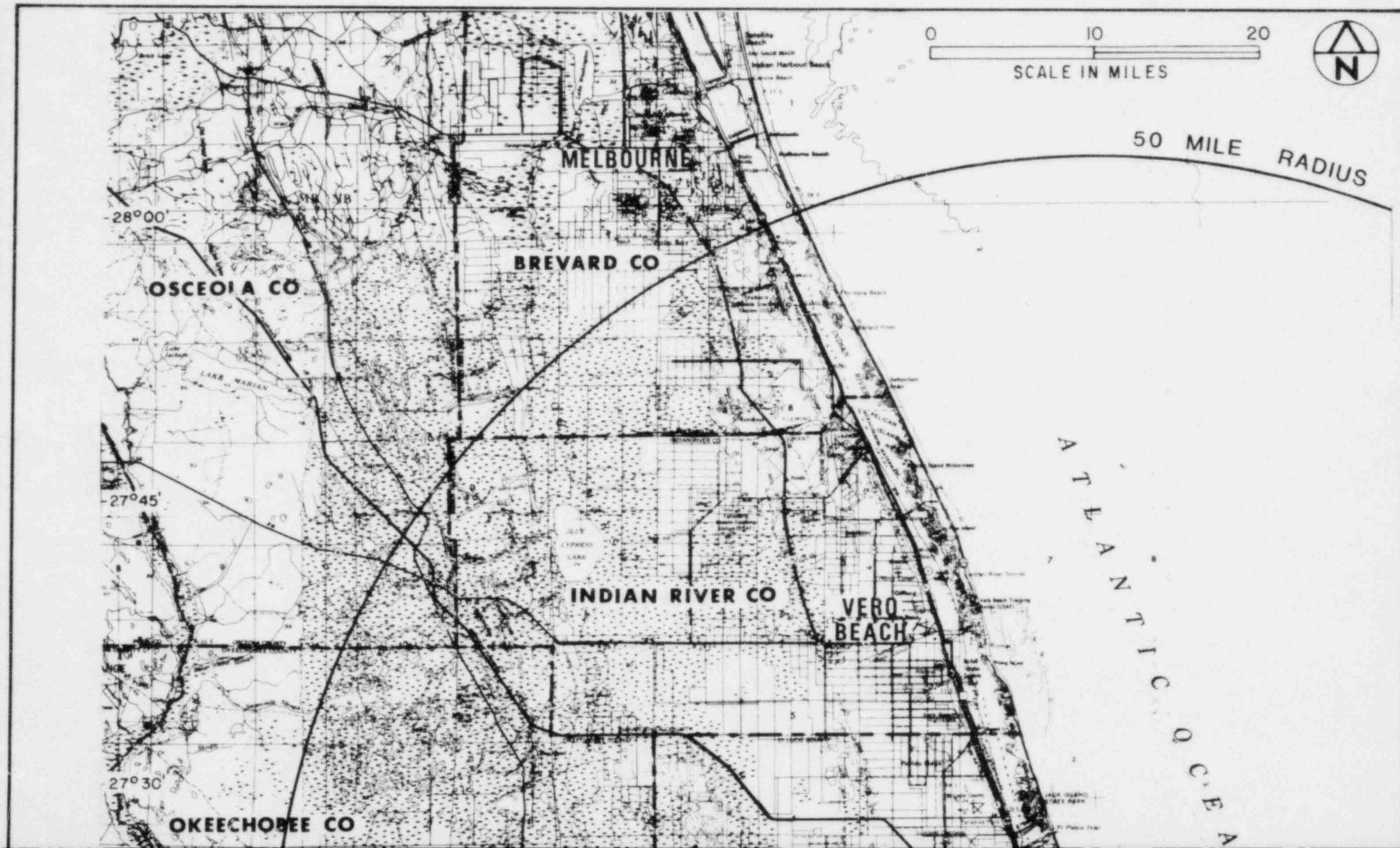
Recreational Activity	Average Daily per Capita Participation Rate: Residents(1)	Tourists(2)	Average Daily Recreational Saltwater Users within 50 miles of St Lucie Unit 2: 1978	1980	1983	1990	2000	2010	2020	2030
Beach Activities (saltwater)	.1095	.3264	66,666	73,159	80,879	94,703	110,017	122,940	135,478	149,325
Fishing (saltwater)	.0403	.0221	20,423	22,227	24,574	28,777	33,430	37,357	41,172	45,374
Boating (saltwater)										
Power Boating	.0362	.0550	19,820	21,650	23,936	28,029	32,560	36,385	40,099	44,194
Sailing	.0018	.0157	1,529	1,698	1,877	2,197	2,553	2,853	3,143	3,465
Surfing	.0017	.0279	1,993	2,230	2,465	2,886	3,353	3,746	4,127	4,550
Population within 50 miles of St Lucie Unit 2 (see Section 2.1.2)										
Resident			483,765	530,764	580,742	680,081	790,040	882,845	973,061	1,072,314
Peak Daily Tourists and Seasonal Visitors			41,953	47,927	52,965	61,993	72,026	80,485	88,631	97,758

Notes:

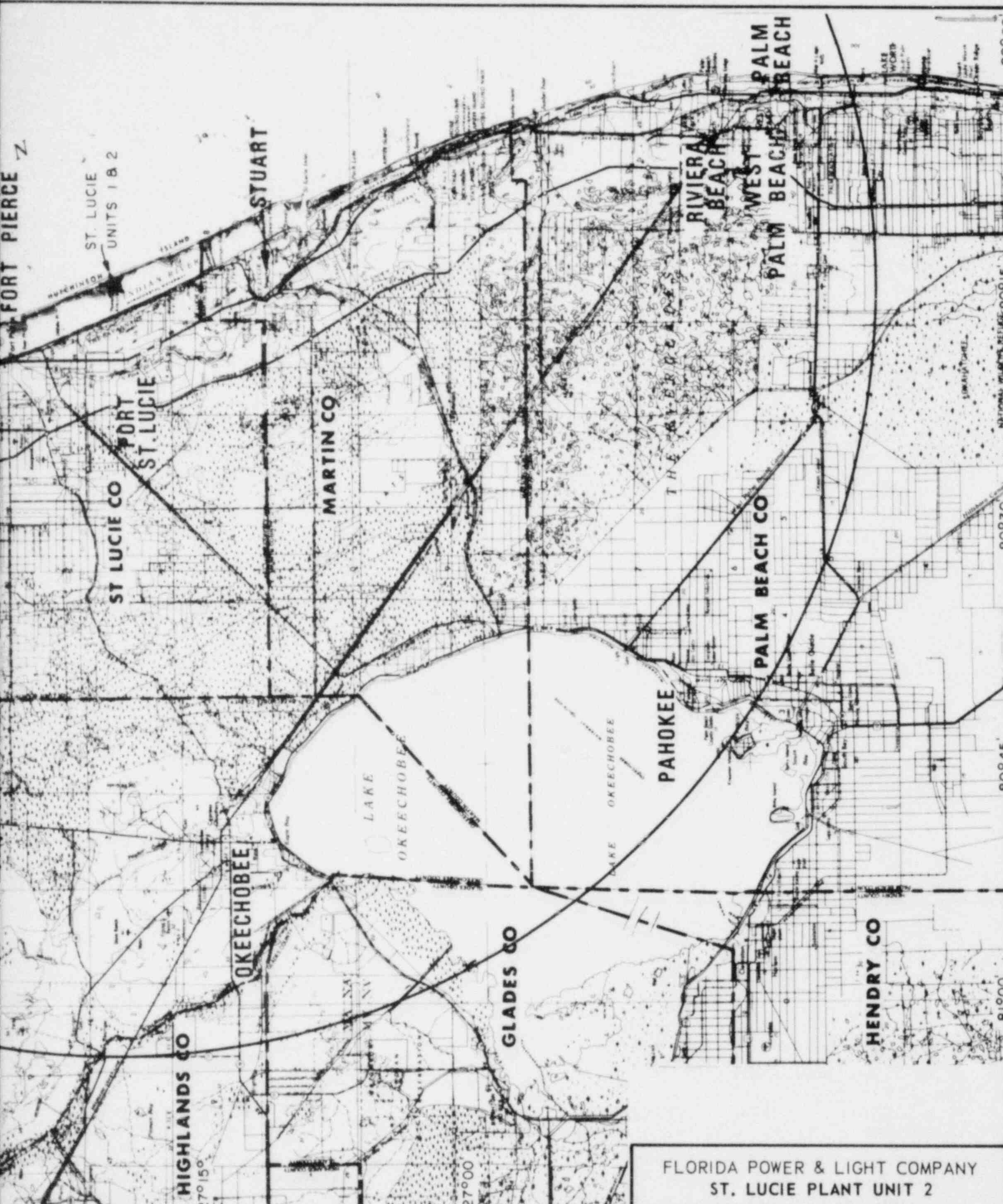
(1) Assumes that daily usage of resident population is limited to weekends, May through October. Therefore, the annual per capita resident participation rate (e.g., 6.57 for beach activities) is divided by 60, the number of weekend days from May through October, to get the average daily per capita participation rate (e.g., 0.1095 for beach activities). Region X rates used.

(2) Assumes that tourists stay 13 days. Annual per capita rates are therefore divided by 13. Region X rates used.

Source: Outdoor Recreation in Florida 1976. State of Florida Dept of Natural Resources, Division of Recreation and Parks, Tallahassee, Florida, May, 1976.
1977 Florida Tourist Study, An Executive Summary, Florida Department of State, Division of Tourism, Tallahassee, Florida, 1977.



0
10
20
SCALE IN MILES
N
50 MILE RADIUS
MELBOURNE
BREVARD CO
OSCEOLA CO
28°00'
27°45'
27°30'
INDIAN RIVER CO
VERO BEACH
OKEECHOBEE CO
ATLANTIC OCEA

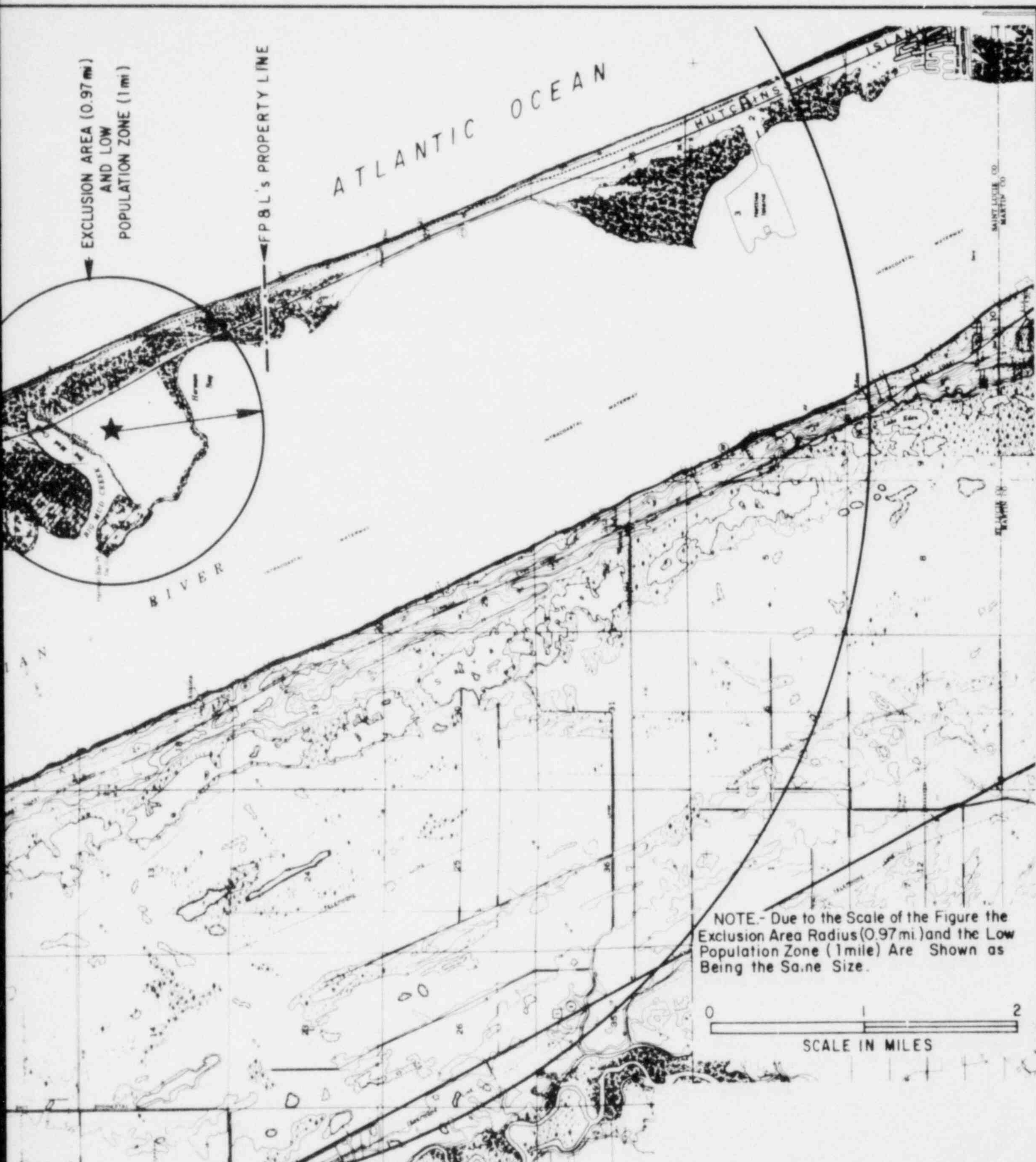


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

THE REGION WITHIN
50 MILES OF ST LUCIE UNIT 2

FIGURE 2.1-1

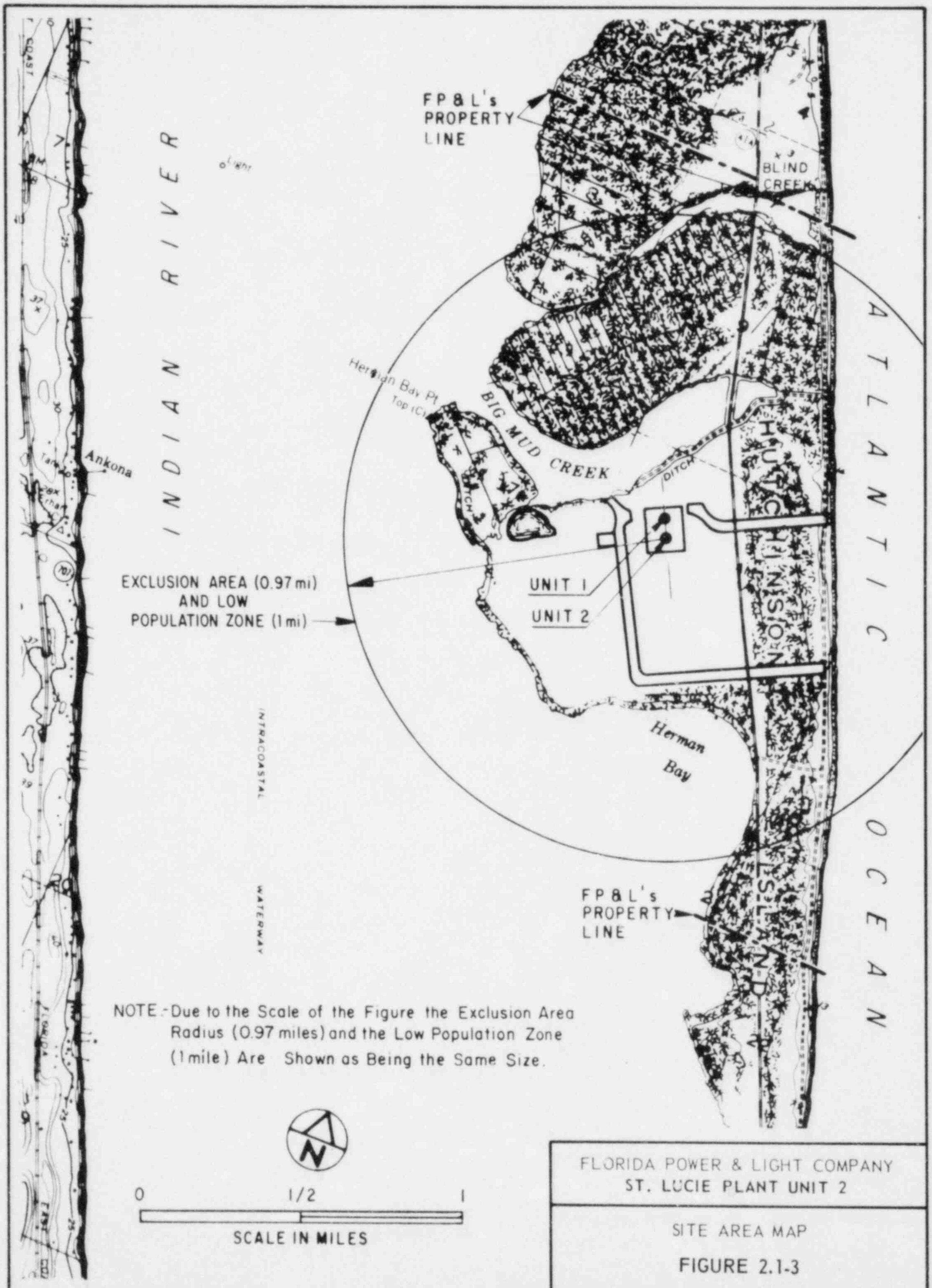

5 MILE RADIUS
FP&L's PROPERTY LINE
ATLANTIC OCEAN
IND



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

THE AREA WITHIN
5 MILES OF ST LUCIE UNIT 2

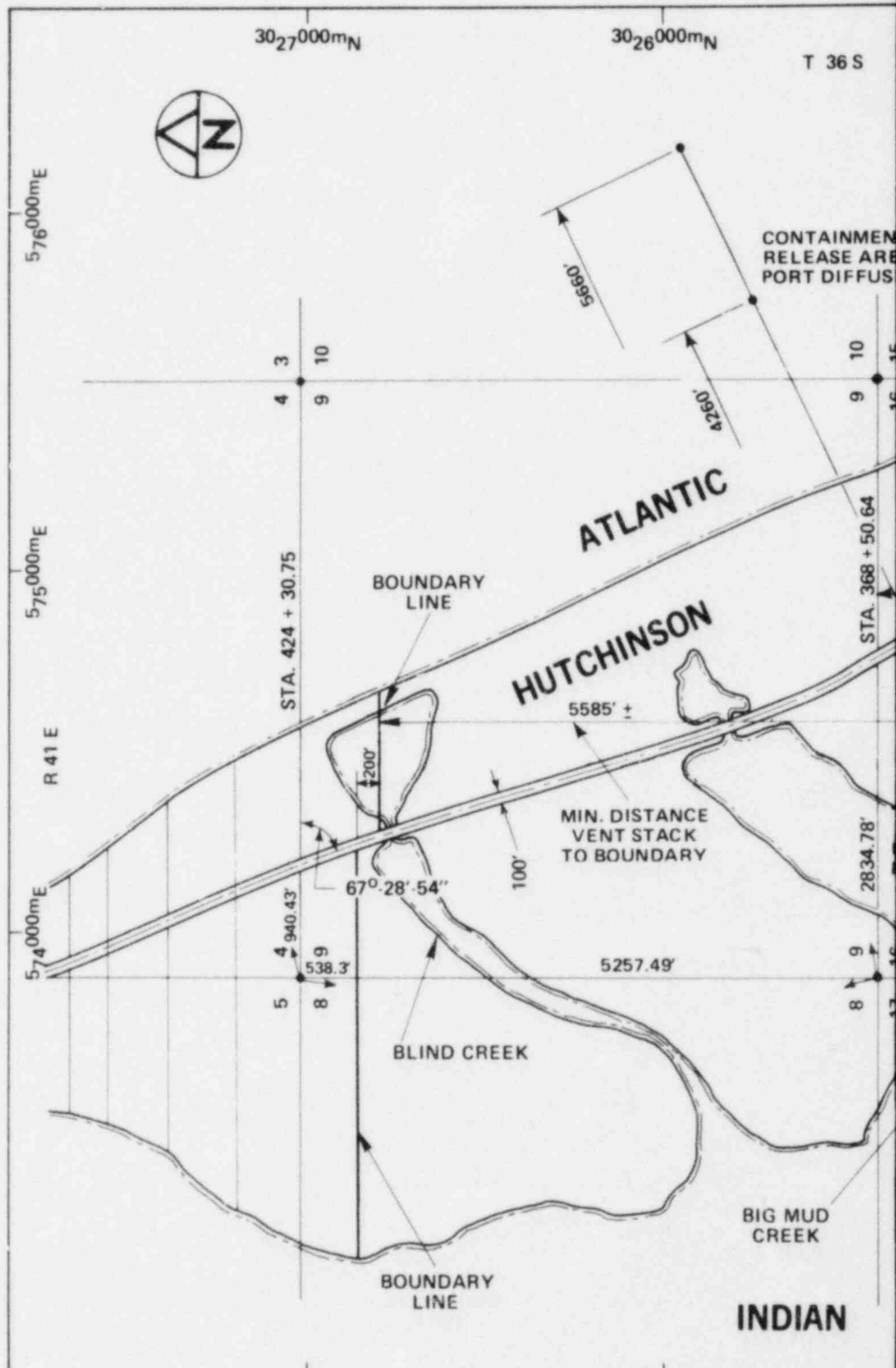
FIGURE 2.1-2



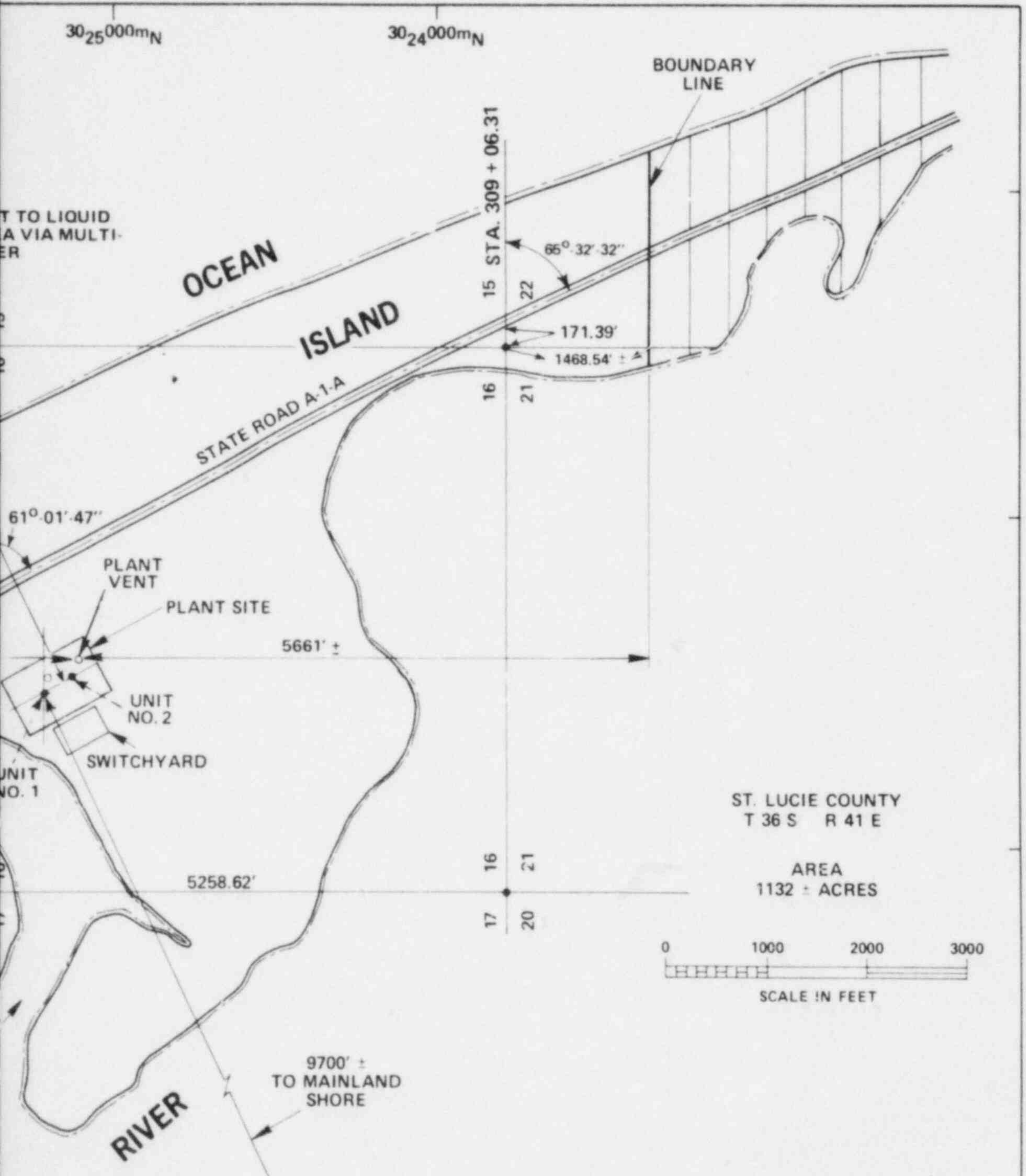
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

SITE AREA MAP

FIGURE 2.1-3



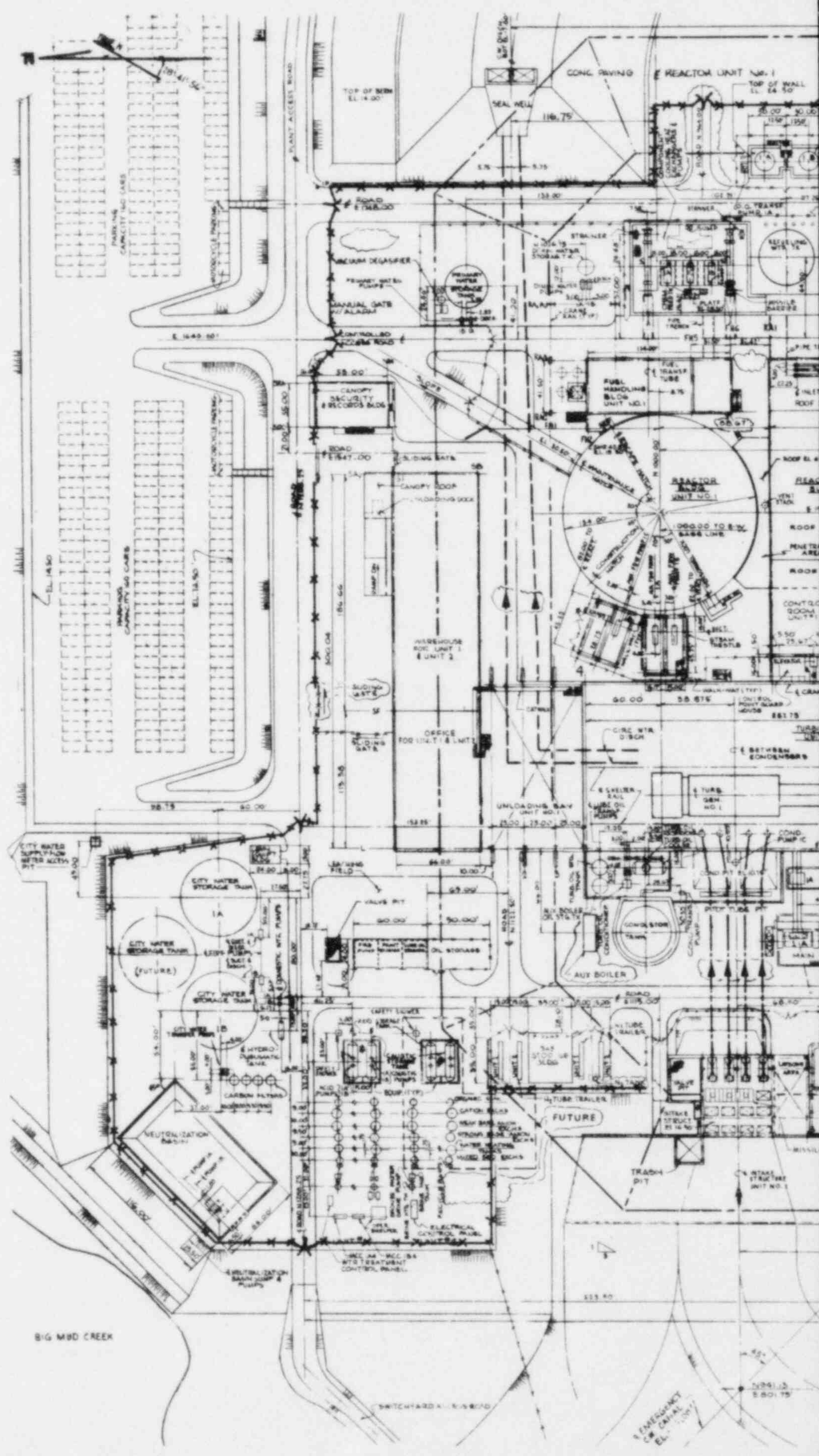
$30_{27}000m_N$
$30_{26}000m_N$
T 36 S
N
$5_{76}000m_E$
$5_{75}000m_E$
$5_{74}000m_E$
R 41 E
CONTAINMEN
RELEASE ARE
PORT DIFFUS
5660'
4260'
3
4
10
9
5
8
ATLANTIC
HUTCHINSON
STA. 424 + 30.75
STA. 368 + 50.64
BOUNDARY
LINE
5585' ±
200'
MIN. DISTANCE
VENT STACK
TO BOUNDARY
100'
67°-28'-54"
940.43'
538.3'
5257.49'
2834.78'
BLIND CREEK
BIG MUD
CREEK
BOUNDARY
LINE
INDIAN



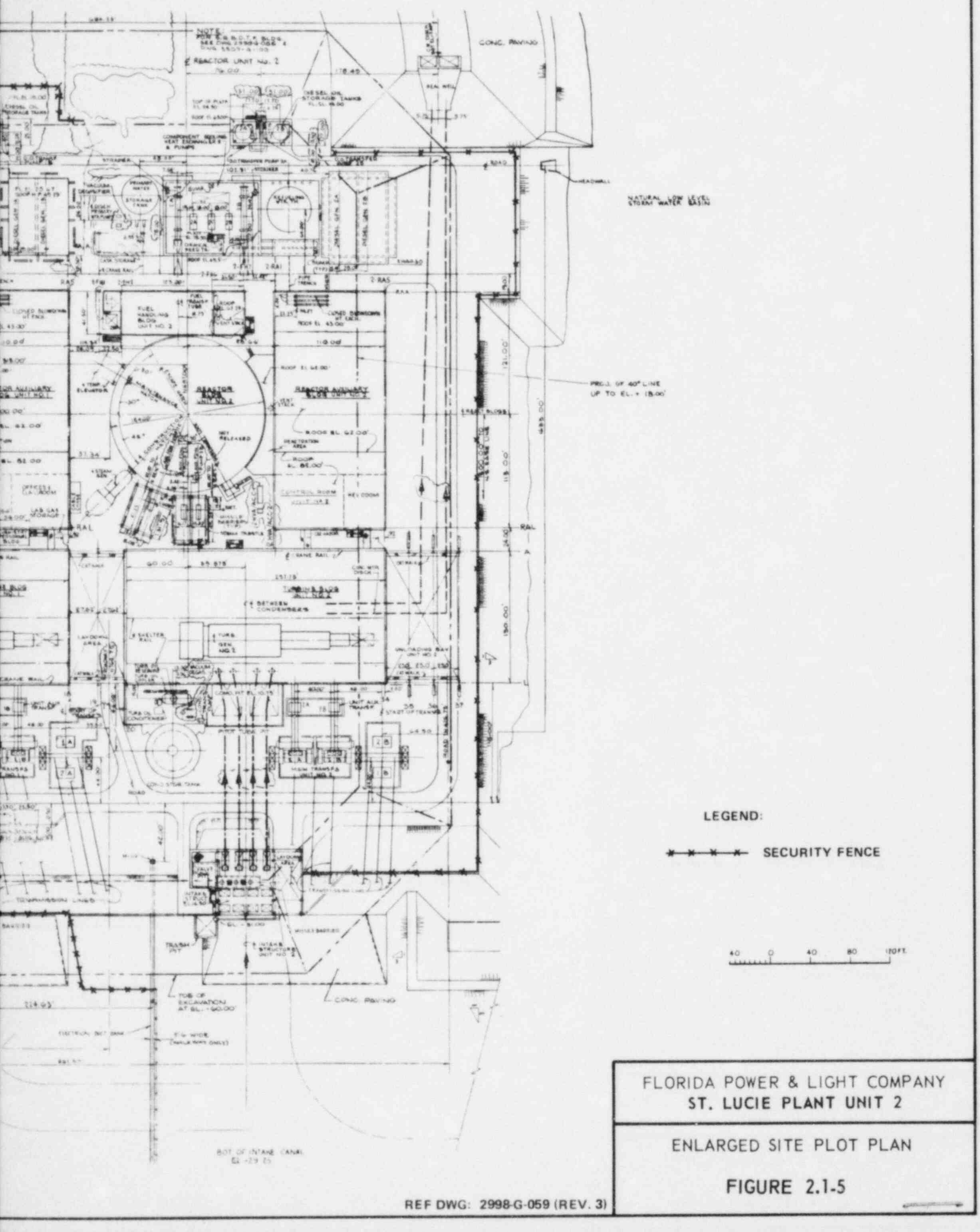
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

PROPERTY PLAN

FIGURE 2.1-4



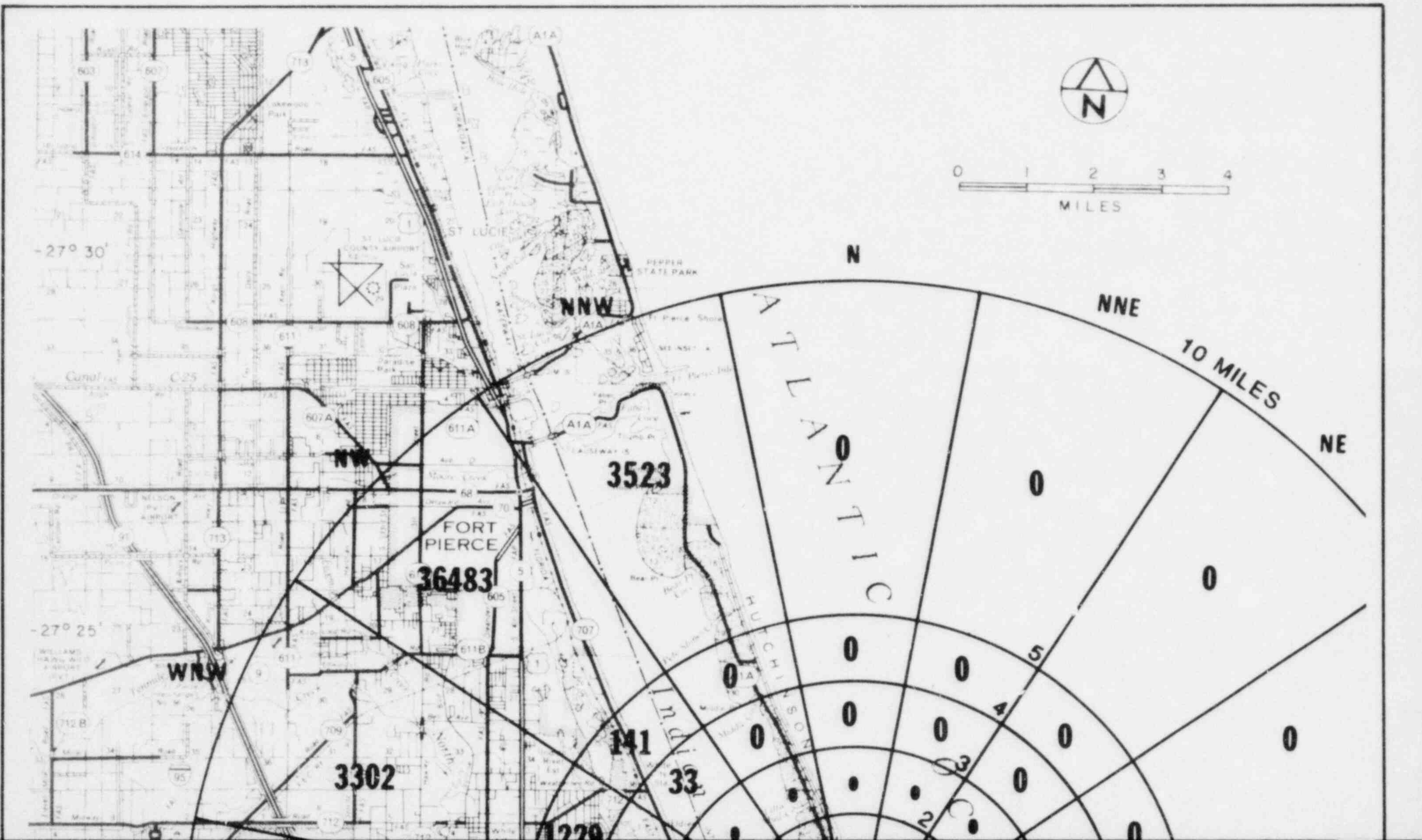
CONC PAVING
REACTOR UNIT No. 1
SEAL WELL
TOP OF BERM
PLANT ACCESS ROAD
PARKING CAPACITY 160 CARS
PARKING CAPACITY 160 CARS
VACUUM DEGASIFIER
MANUAL GATE W/ ALARM
CONTROLLED ACCESS ROAD
CANOPY SECURITY & RECORDS BLDG.
FUEL HANDLING BLDG. UNIT NO. 1
REACTOR BLDG. UNIT NO. 1
SLIDING GATE
CANOPY ROOF
UNLOADING DOCK
WAREHOUSE FOR UNIT 1 & UNIT 2
OFFICE FOR UNIT 1 & UNIT 2
SLIDING GATE
CIRC WTR DISCH
TURB GEN NO. 1
UNLOADING BAY UNIT NO. 1
CITY WATER SUPPLY PIT
CITY WATER STORAGE TANK 1A
CITY WATER STORAGE TANK (FUTURE)
CITY WATER STORAGE TANK 1B
VALVE PIT
OIL STORAGE
AUX BOILER
COND STOR TANK
CARBON FILTERS
NEUTRALIZATION BASIN
FUTURE
TRASH PIT
ELECTRICAL CONTROL PANEL
WTR TREATMENT CONTROL PANEL
BIG MUD CREEK
SWITCHYARD ACCESS ROAD

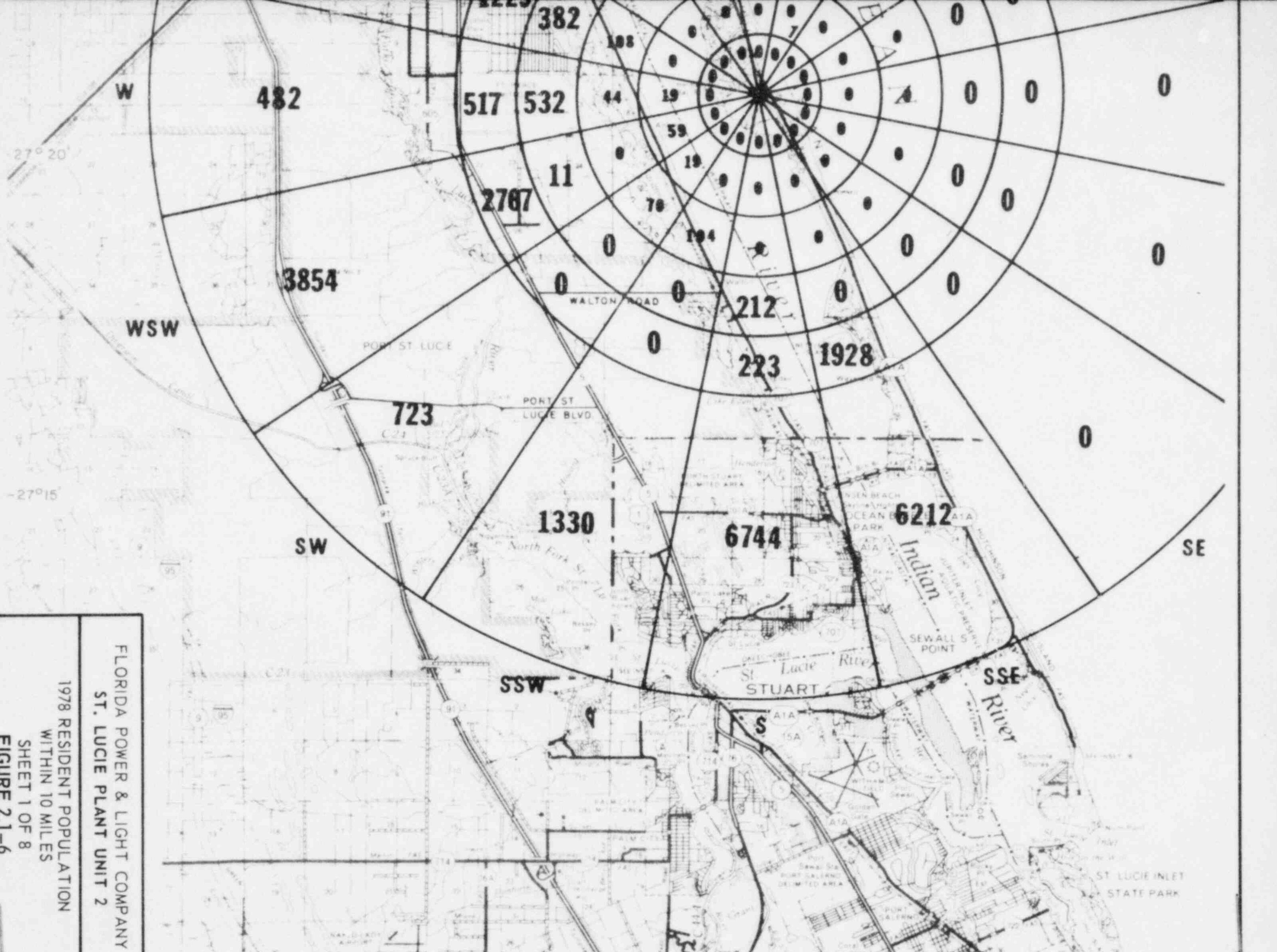


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

ENLARGED SITE PLOT PLAN

FIGURE 2.1-5

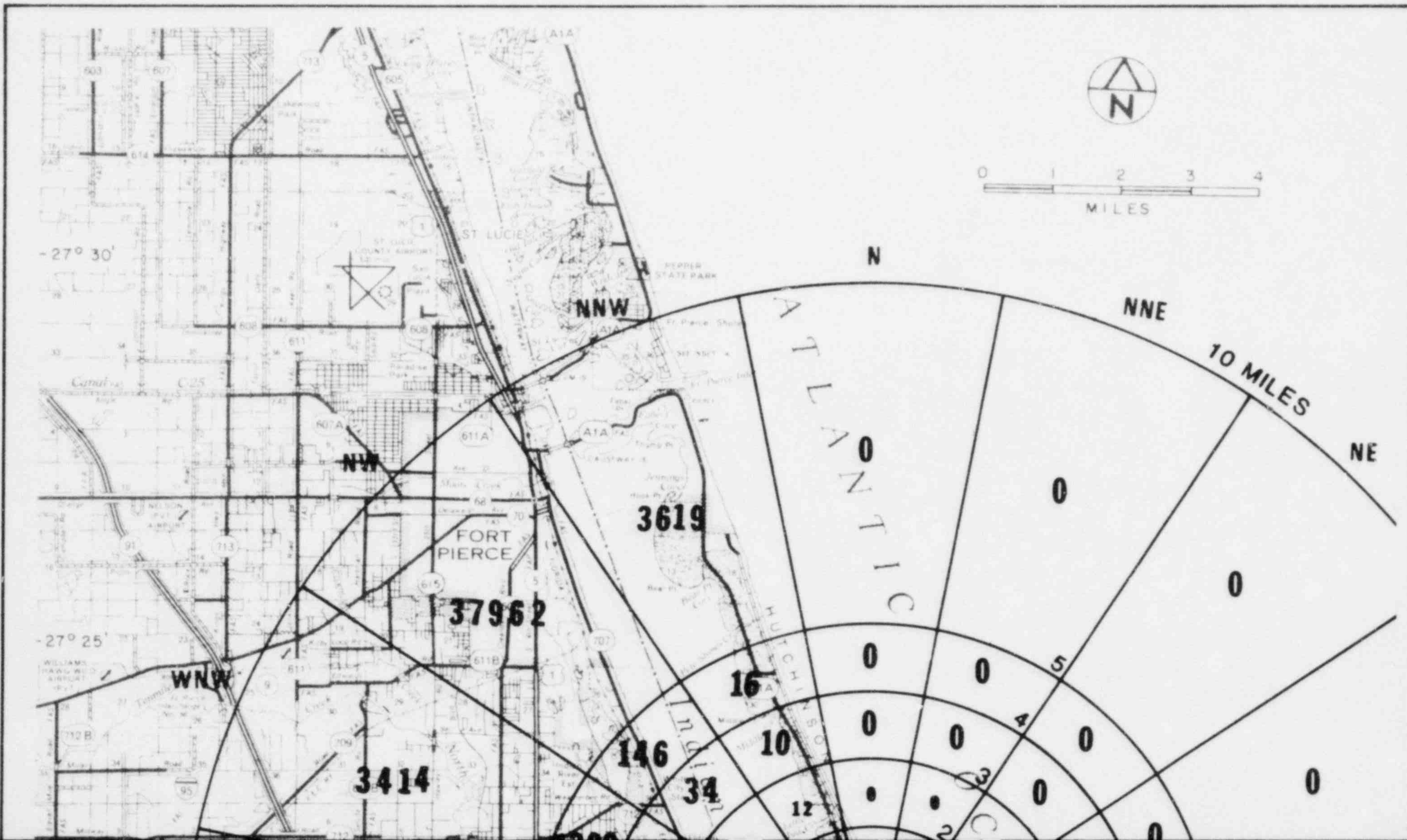

N
0 1 2 3 4
MILES
N
NNE
10 MILES
NE
NNW
NW
WNW
FORT
PIERCE
ATLANTIC
ST LUCIE
PEPPER
STATE PARK
-27° 30'
-27° 25'
3523
36483
3302
141
33
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
5
4
3
2



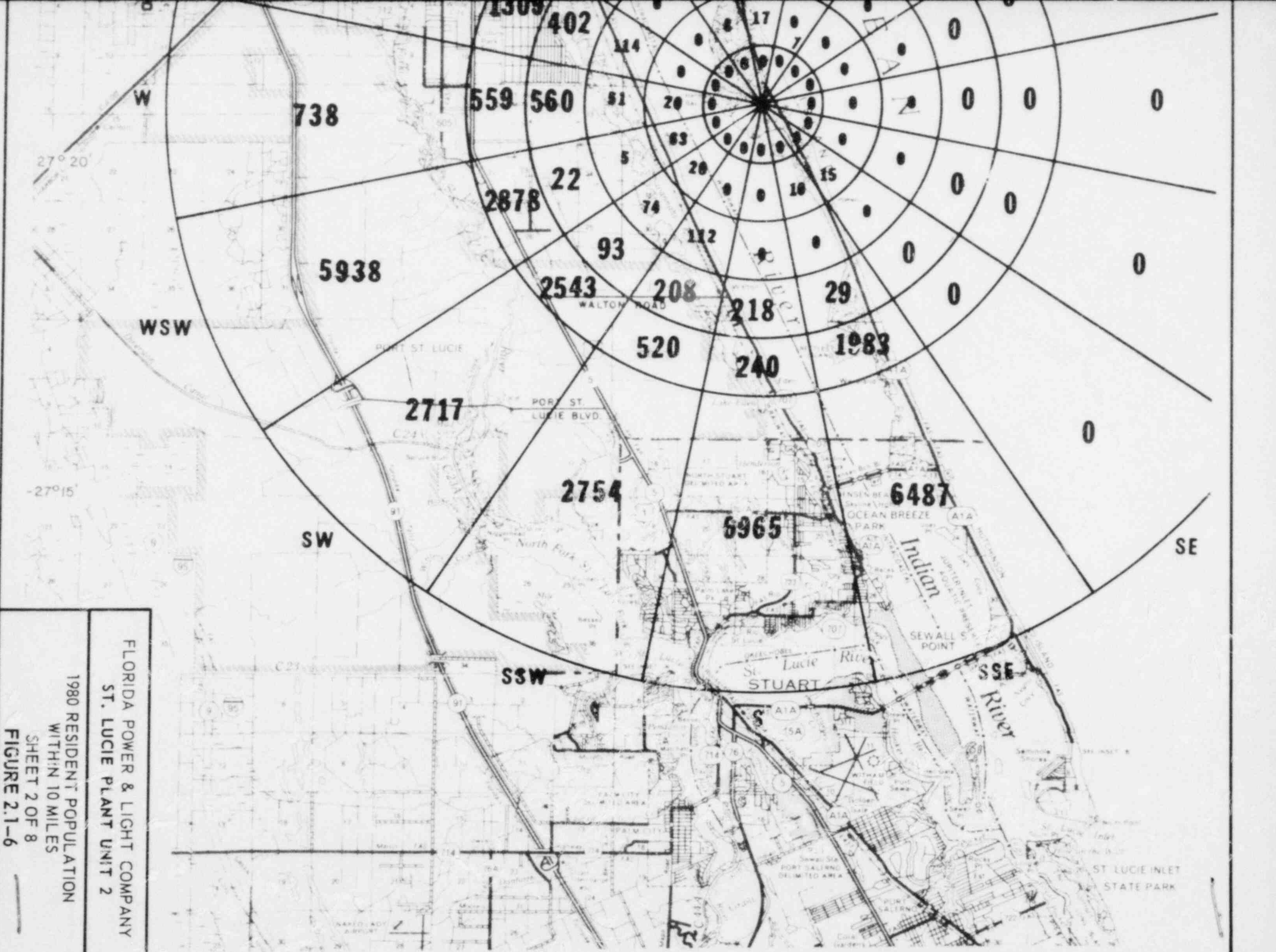
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

1978 RESIDENT POPULATION
WITHIN 10 MILES
SHEET 1 OF 8

FIGURE 2.1-6



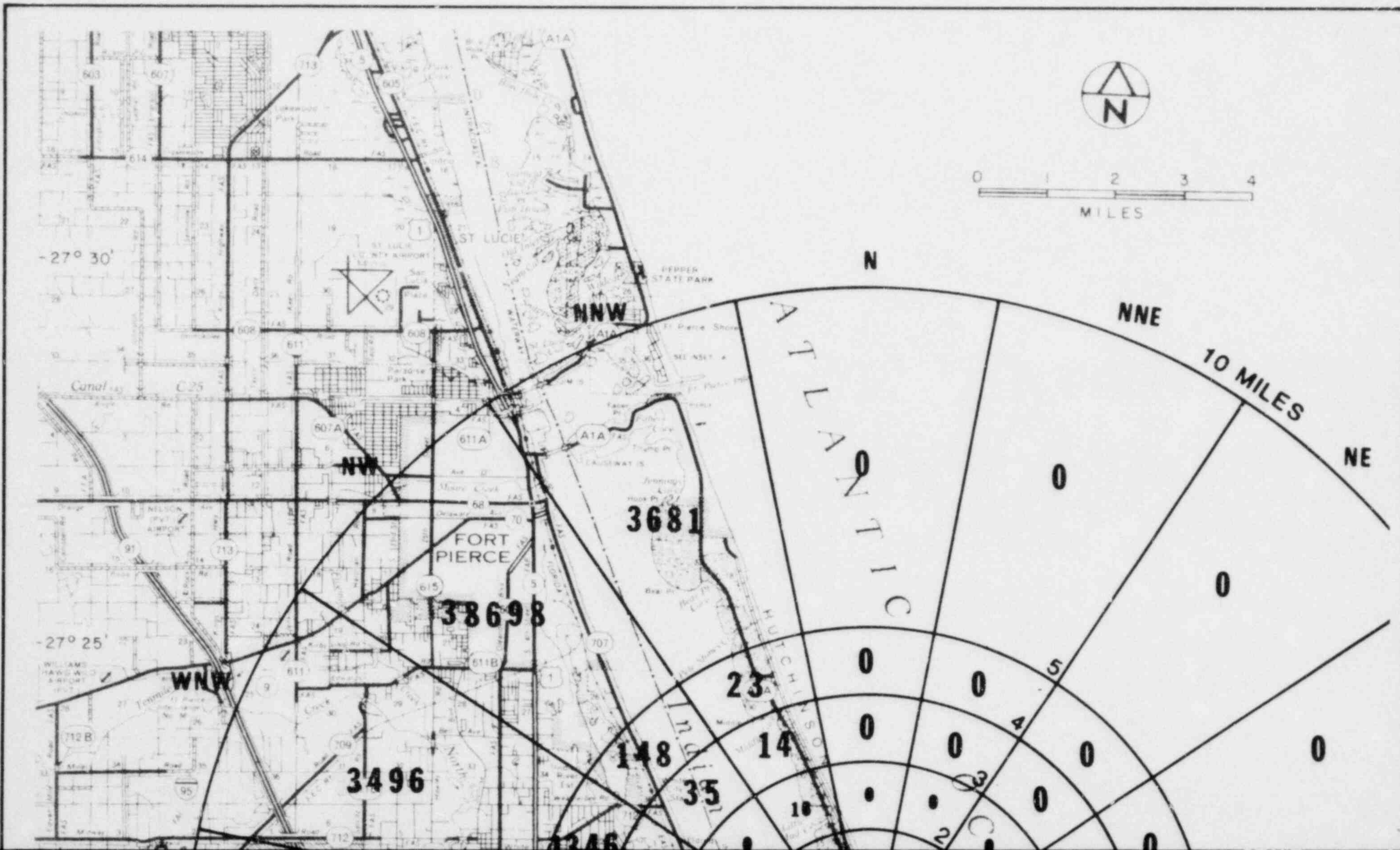
N
NNE
NE
NNW
NW
WNW
10 MILES
5
4
3
2
0
1
2
3
4
MILES
ATLANTIC
Indian
HUTCHINSO
FORT
PIERCE
ST LUCIE
PEPPER
STATE PARK
ST LUCIE
COUNTY AIRPORT
NELSON
AIRPORT
WILLIAMS
HAWG WILD
AIRPORT
Canal
C25
-27° 30'
-27° 25'
0
0
0
0
0
0
0
0
0
0
0
0
3619
37962
3414
16
10
12
146
34

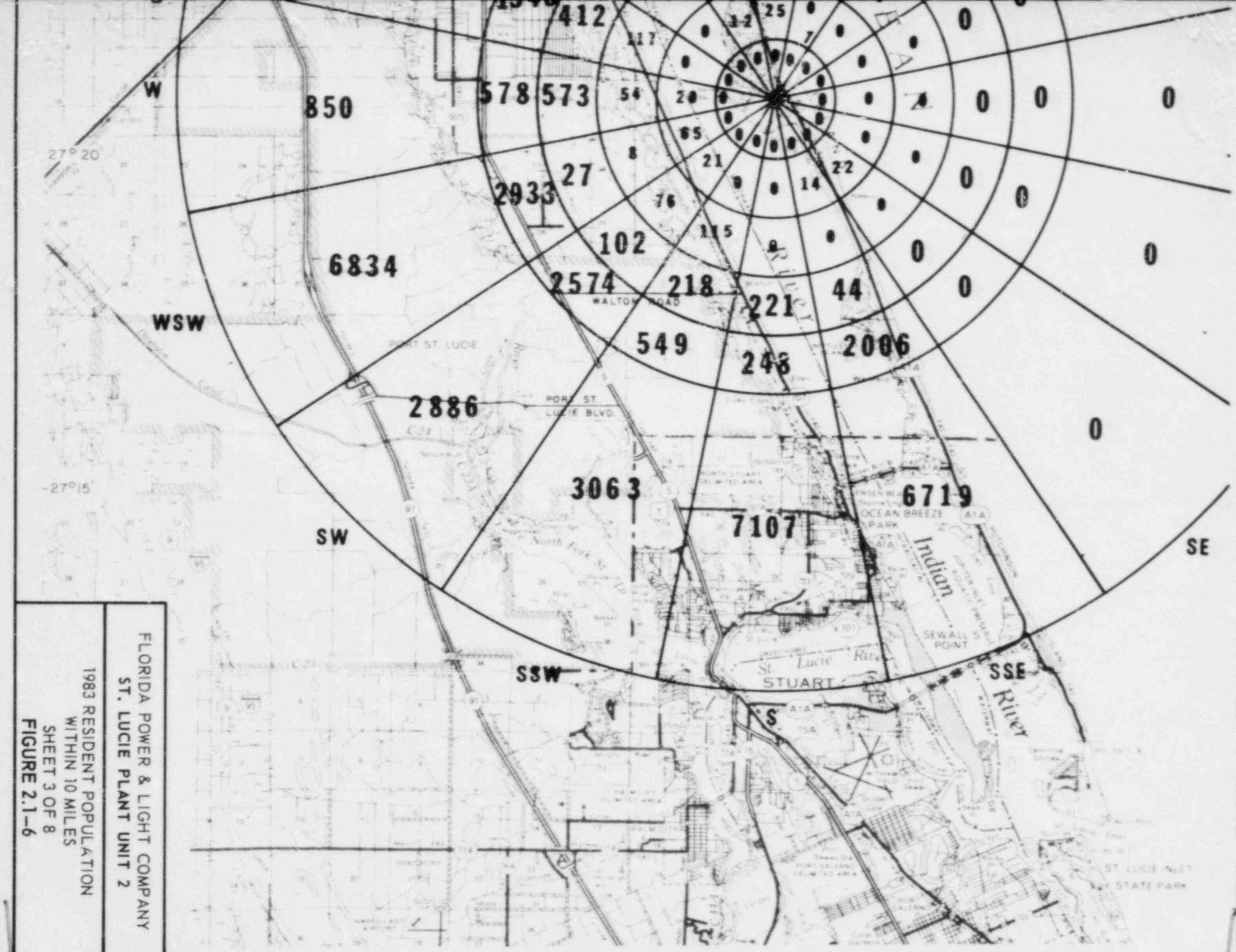


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

1980 RESIDENT POPULATION
WITHIN 10 MILES
SHEET 2 OF 8

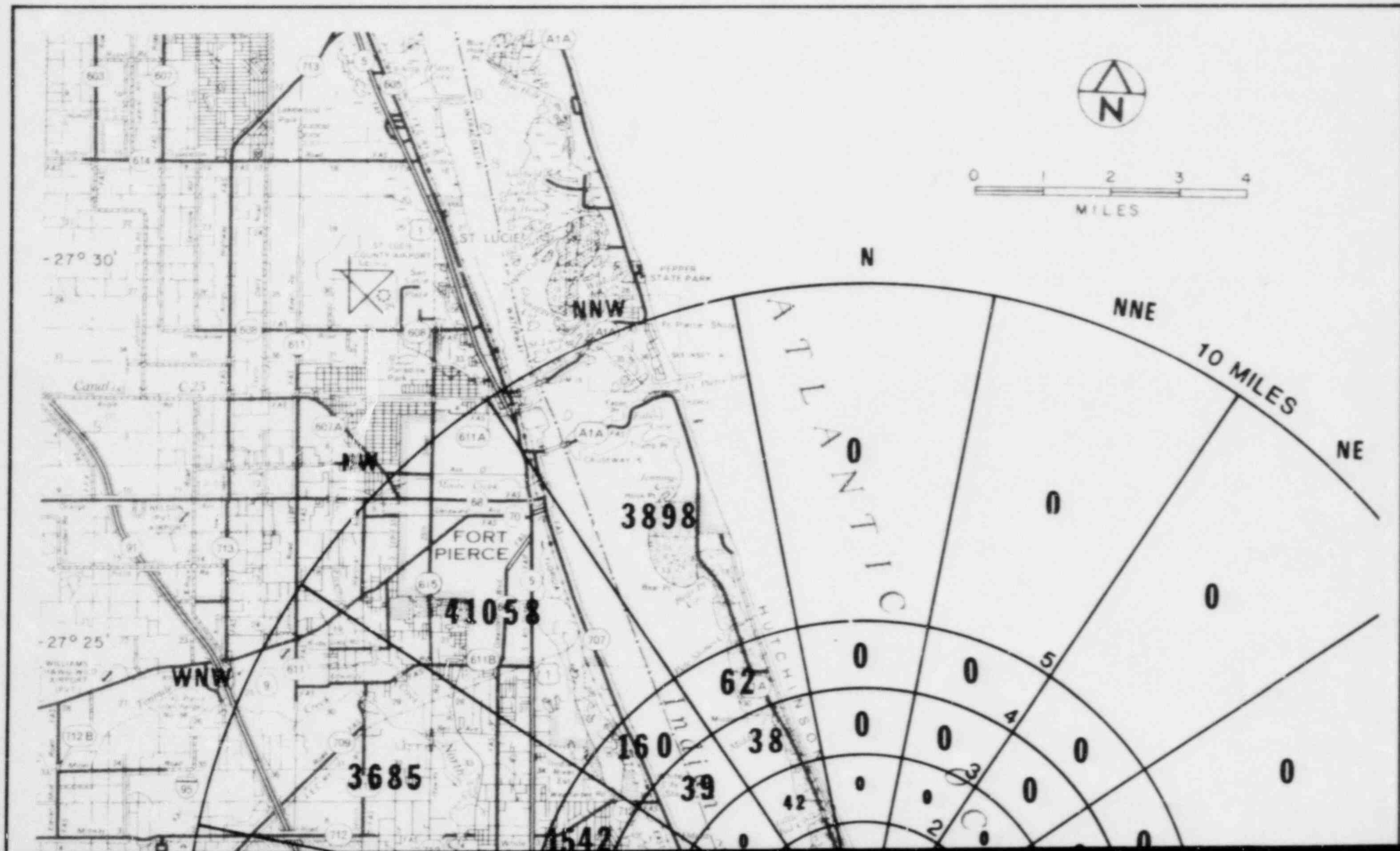
FIGURE 2.1-6

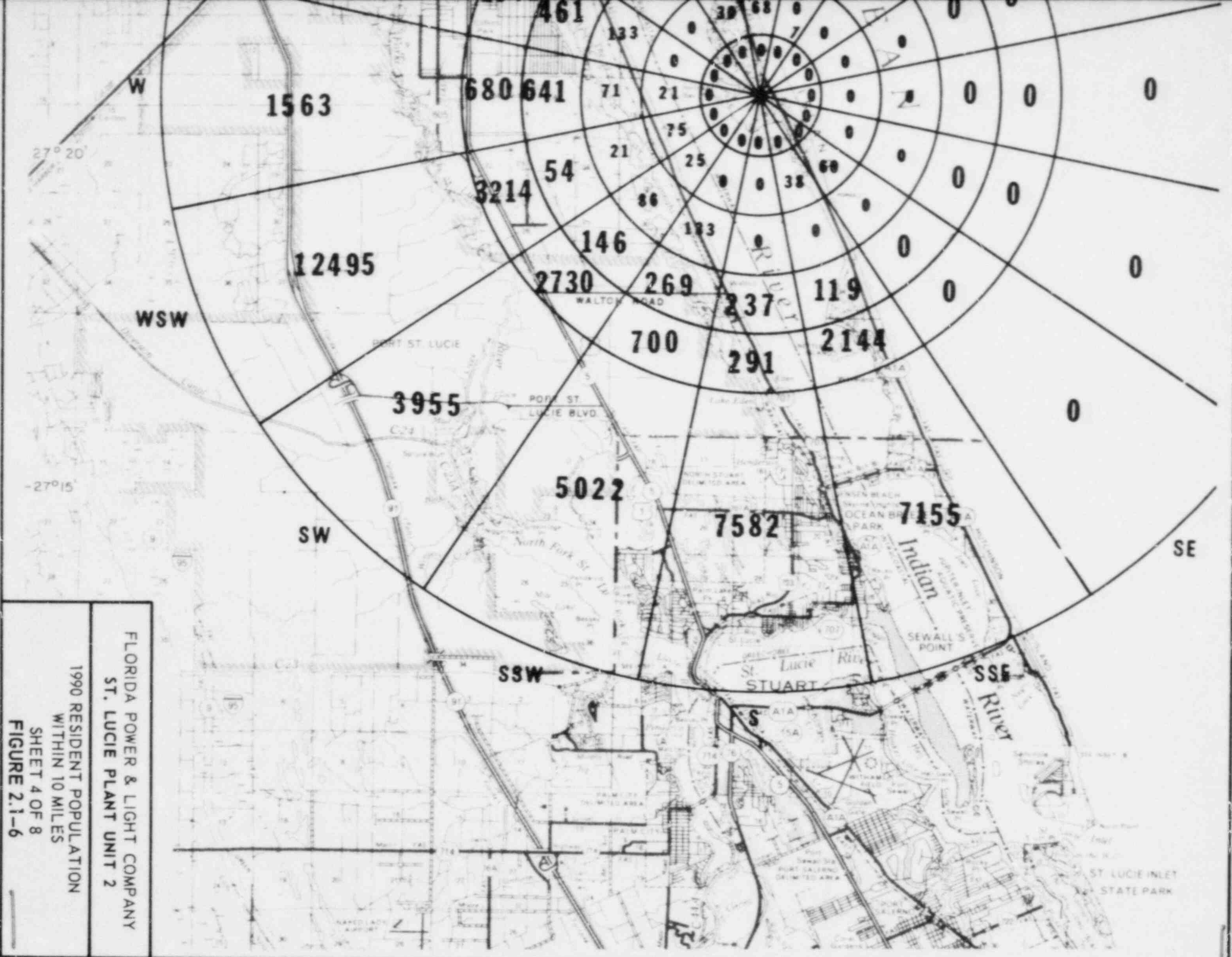

N
0 1 2 3 4
MILES
N
NNE
10 MILES
NE
NNW
NW
WNW
ATLANTIC
ST LUCIE
FORT PIERCE
PEPPER STATE PARK
Canal C25
-27° 30'
-27° 25'
0
0
0
0
0
0
0
0
0
0
0
0
3681
38698
3496
23
14
148
35
18
5
4
3
2
A1A
713
605
614
608
611
607A
611A
68
70
91
615
611B
707
95
712
712B
709
603
607
1
5
9



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

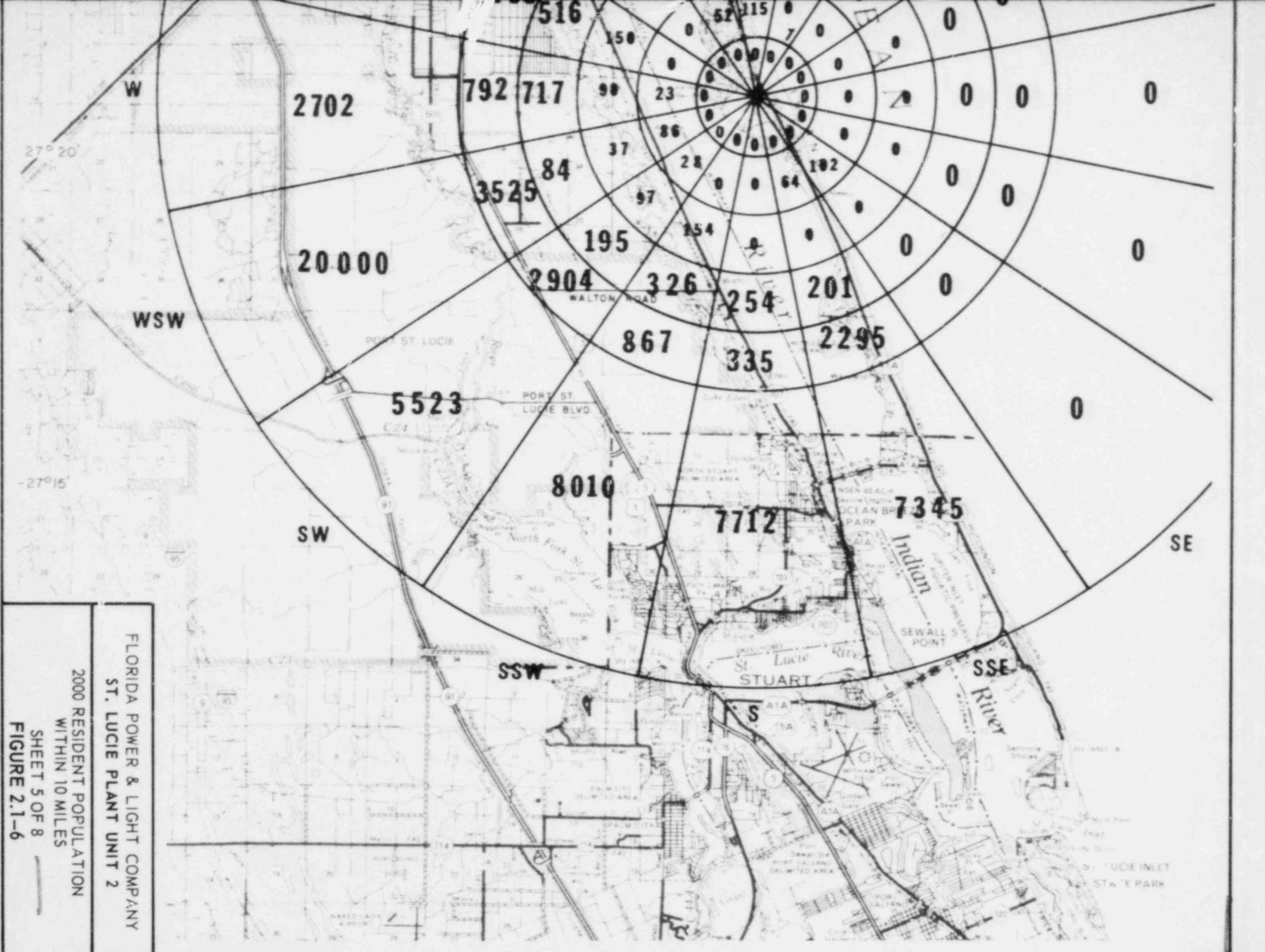
1983 RESIDENT POPULATION
WITHIN 10 MILES
SHEET 3 OF 8
FIGURE 2.1–6


N
0 1 2 3 4
MILES
N
NNE
10 MILES
NE
NNW
NW
WNW
ATLANTIC
FORT PIERCE
ST. LUCIE
PEPPER STATE PARK
-27° 30'
-27° 25'
3898
41058
3685
1542
62
160
38
39
42
0
5
4
3
2

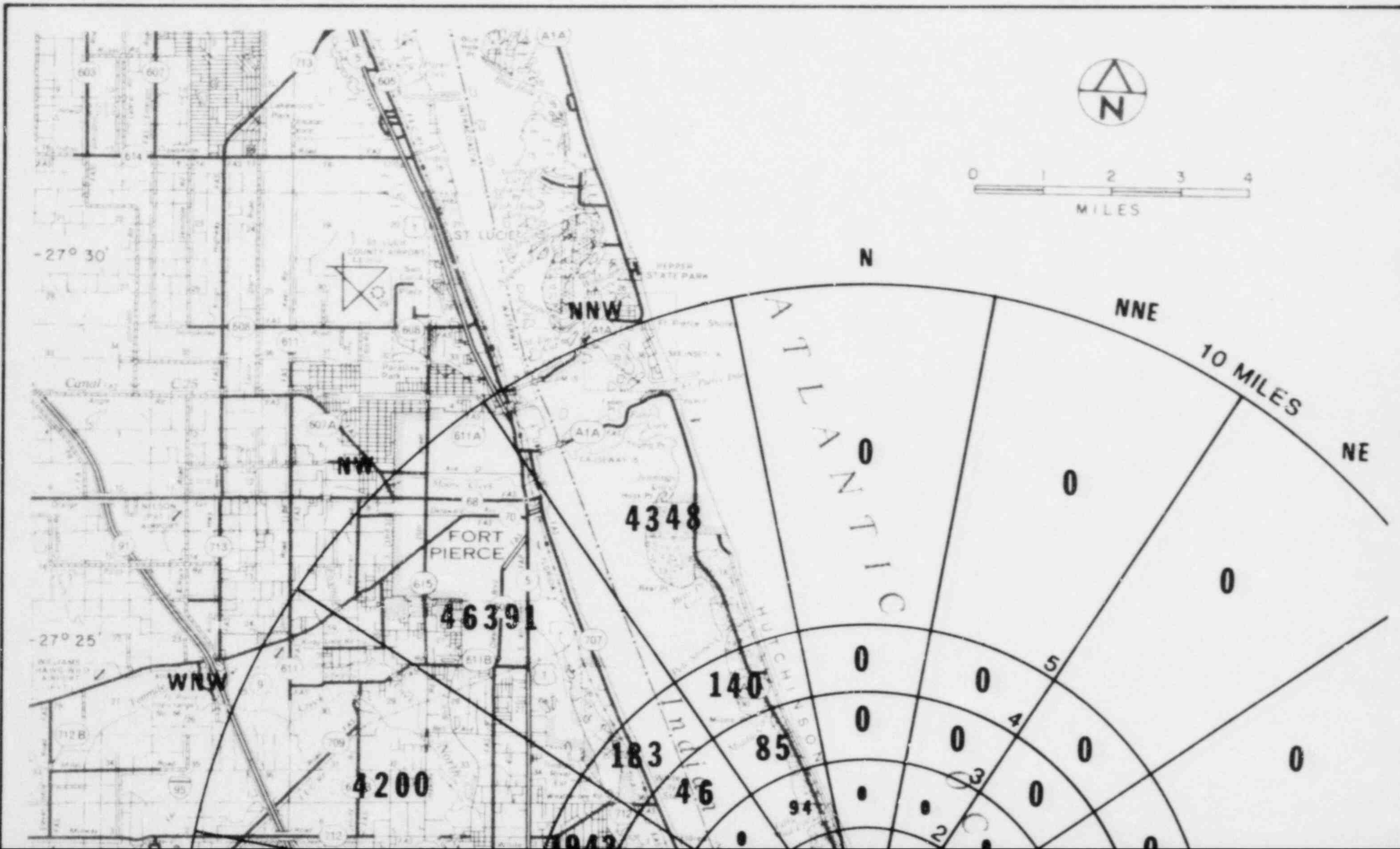


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
1990 RESIDENT POPULATION WITHIN 10 MILES
SHEET 4 OF 8
FIGURE 2.1-6

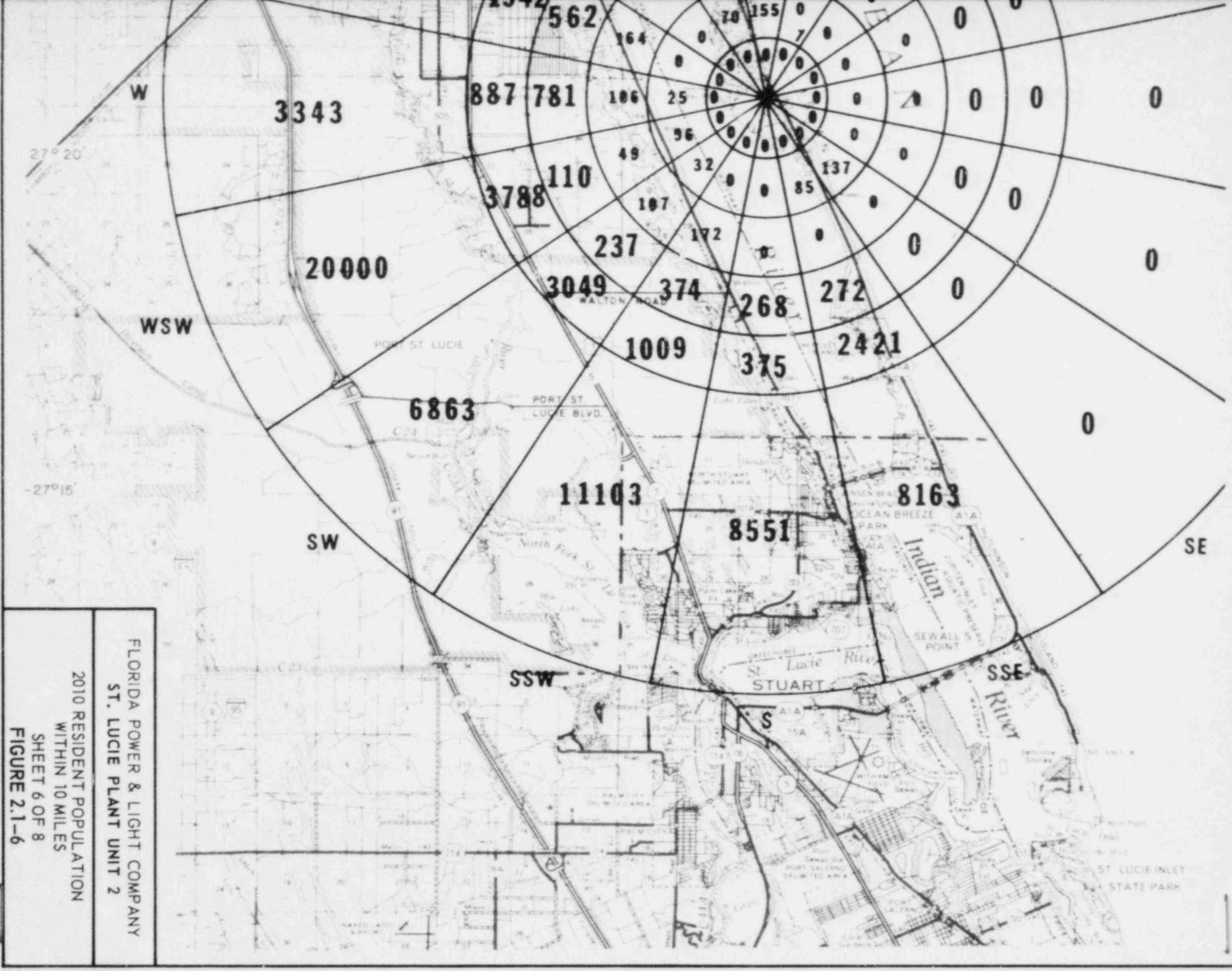

N
0 1 2 3 4
MILES
N
NNE
10 MILES
NE
NNW
NW
WNW
ST. LUCIE
FORT PIERCE
ATLANTIC
HUTCHINSON
-27° 30'
-27° 25'
Canal C25
PEPPER STATE PARK
0
0
0
0
0
0
0
0
0
0
0
0
3927
41806
3790
105
173
64
42
5
4
3
2



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
2000 RESIDENT POPULATION WITHIN 10 MILES
SHEET 5 OF 8
FIGURE 2.1-6



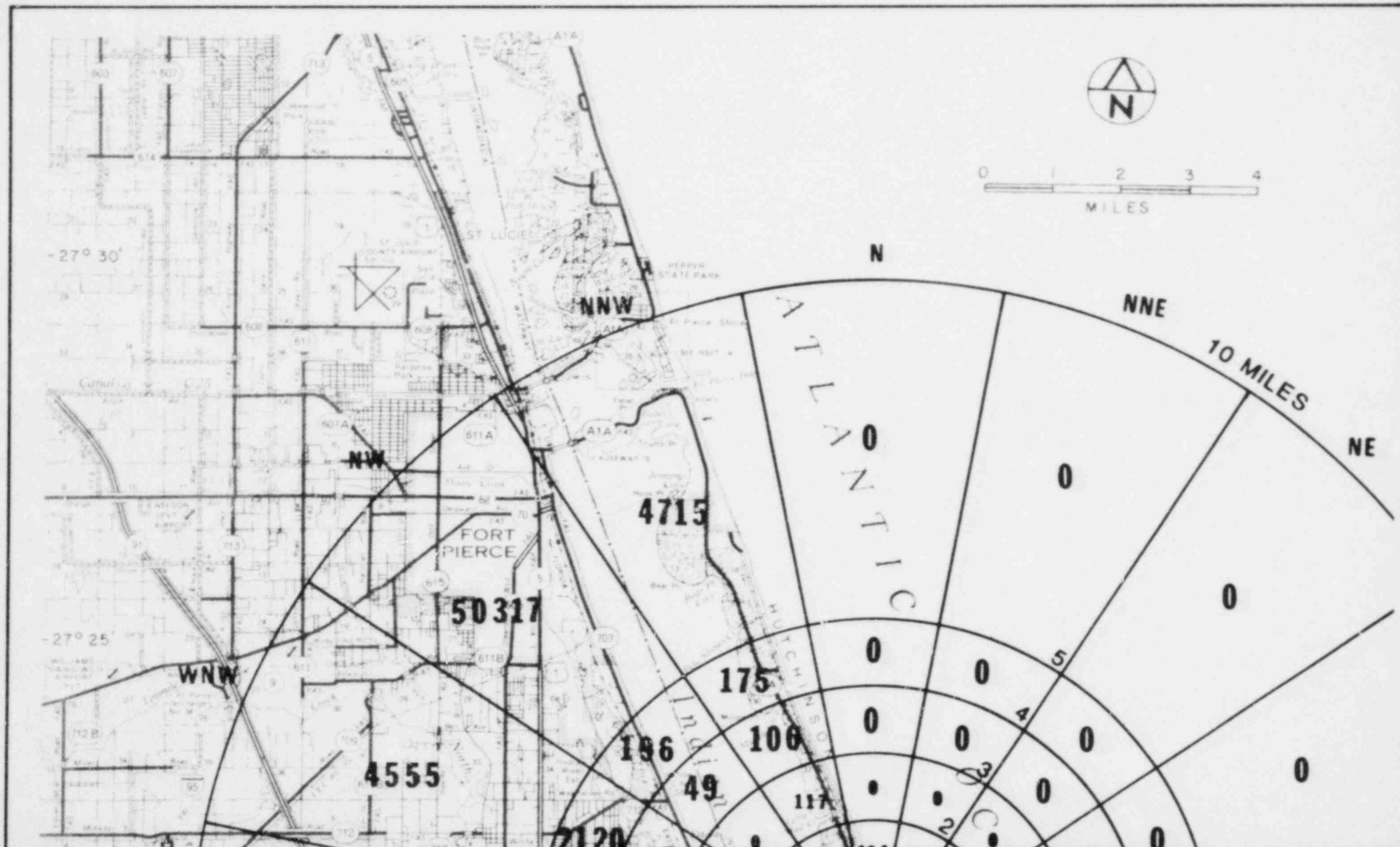
N
0 1 2 3 4
MILES
-27° 30'
-27° 25'
ST. LUCIE
FORT PIERCE
ATLANTIC
N
NNE
NE
NNW
NW
WNW
10 MILES
5
4
3
2
0
0
0
0
0
0
0
0
0
0
0
4348
46391
140
85
183
46
4200
94



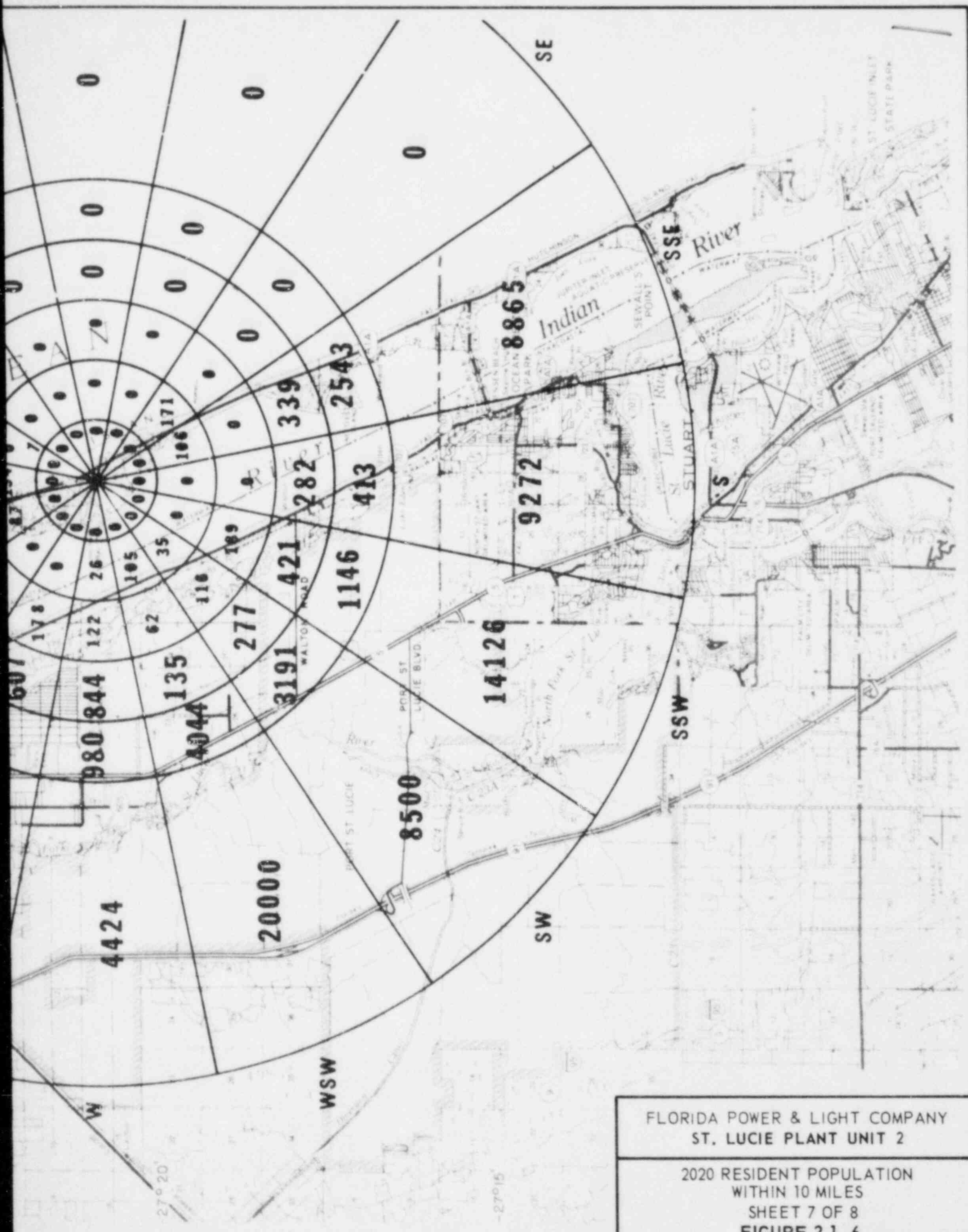
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2010 RESIDENT POPULATION
WITHIN 10 MILES
SHEET 6 OF 8

FIGURE 2.1-6

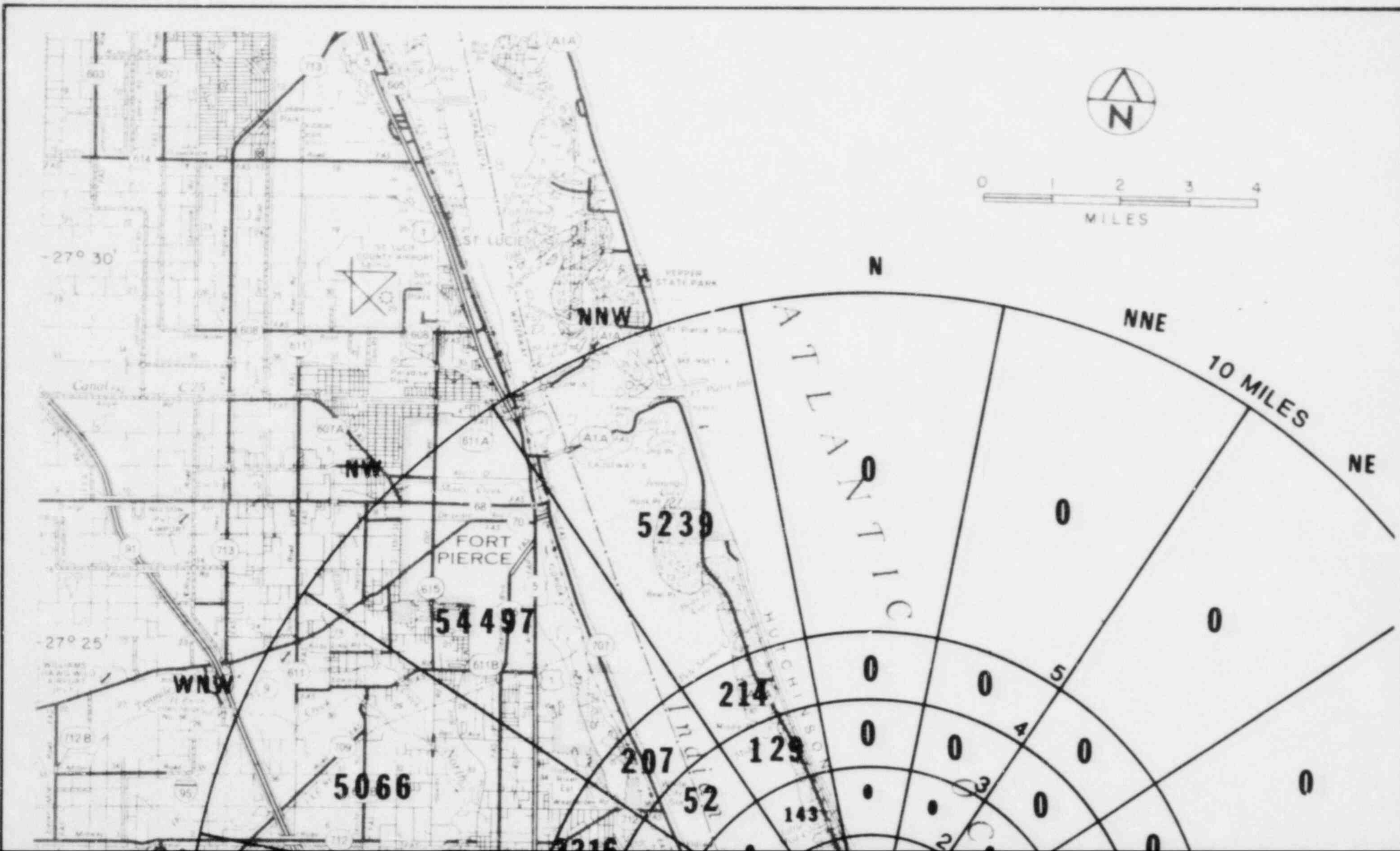


N
MILES
0
1
2
3
4
N
NNE
NE
NNW
NW
WNW
10 MILES
ATLANTIC
FORT
PIERCE
ST. LUCIE
PEPPER
STATE PARK
-27° 30'
-27° 25'
4715
50317
4555
175
106
196
49
117
2120
0
5
4
3
2

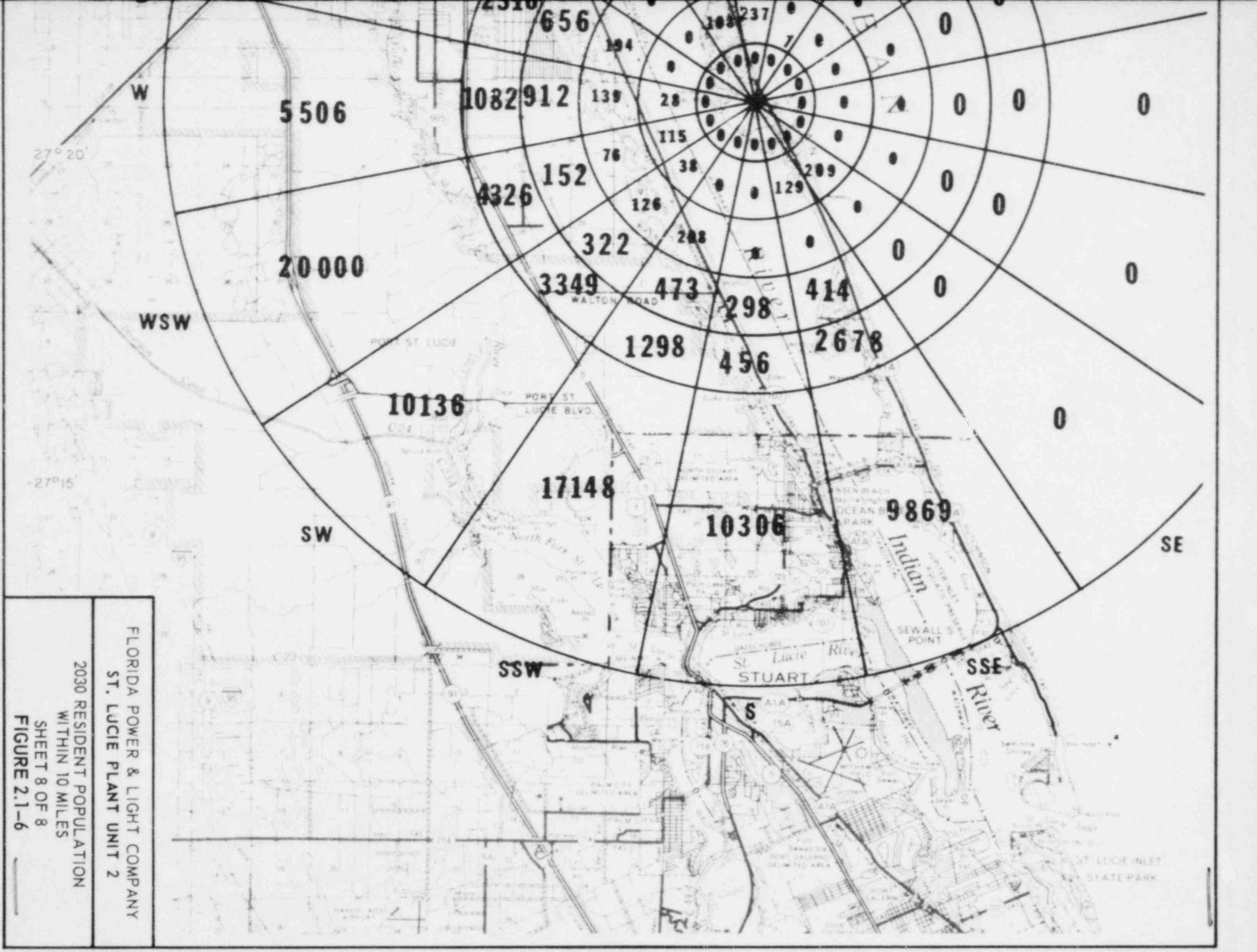


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

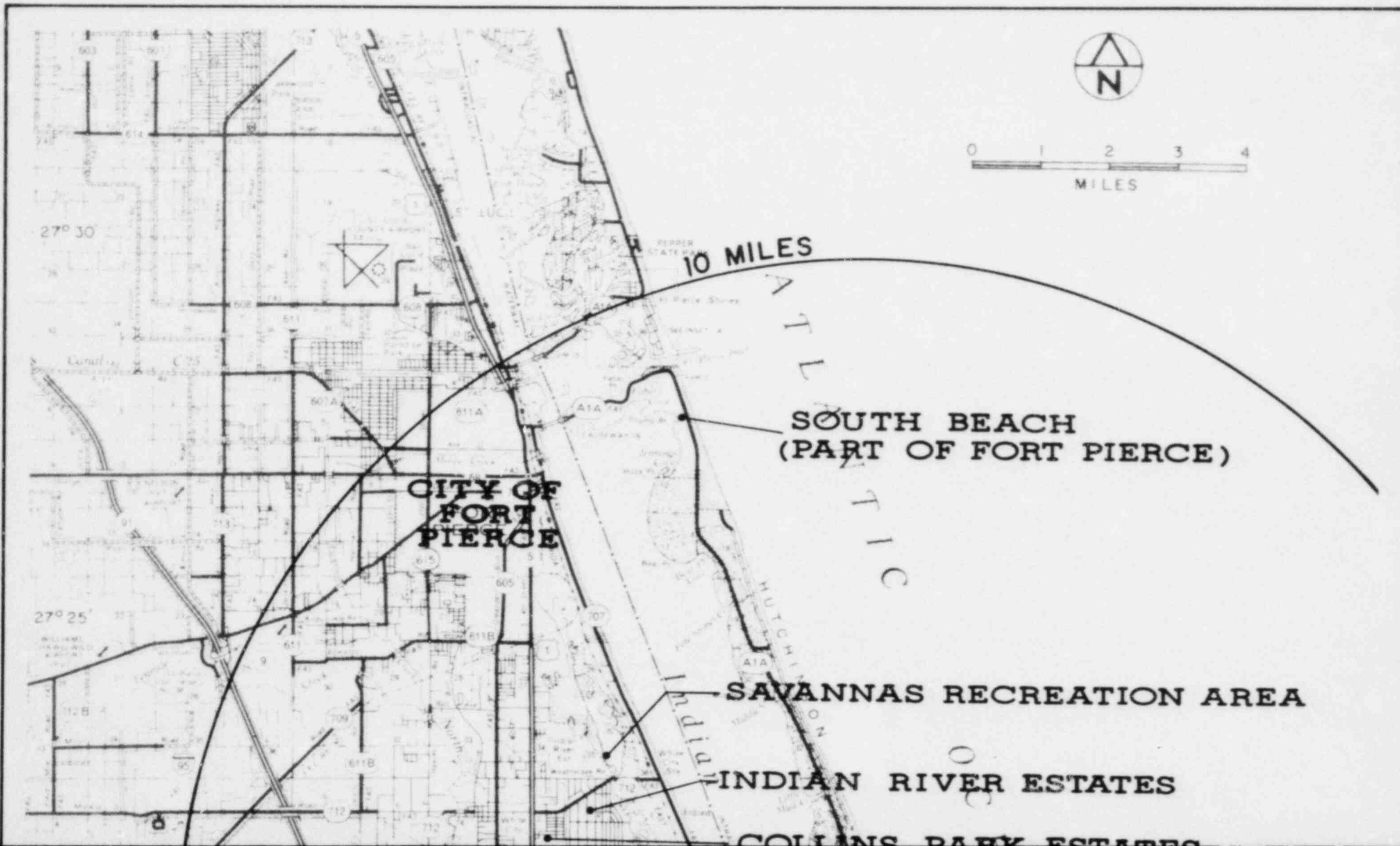
2020 RESIDENT POPULATION
WITHIN 10 MILES
SHEET 7 OF 8
FIGURE 2.1-6

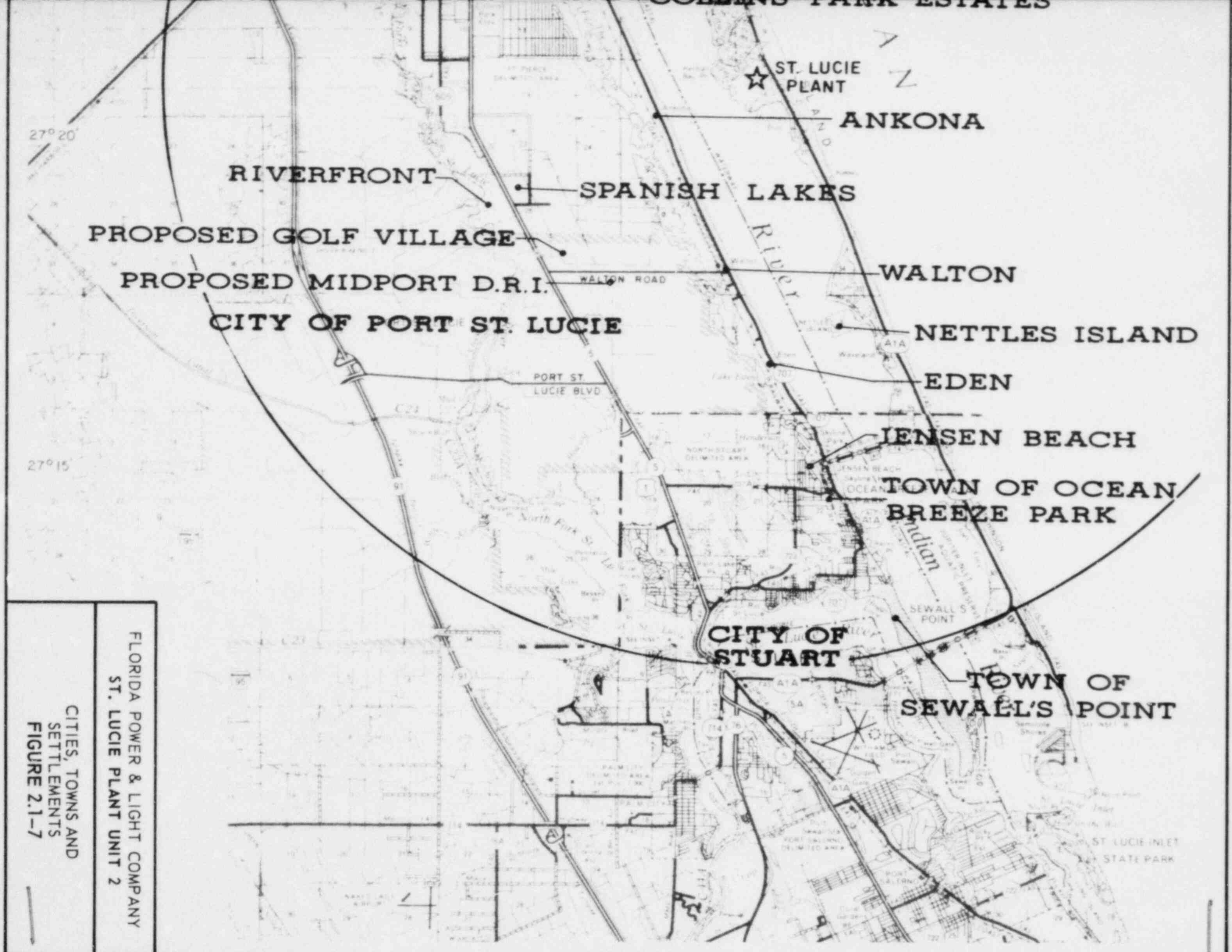


N
0 1 2 3 4
MILES
-27° 30'
-27° 25'
FORT
PIERCE
ATLANTIC
N
NNE
NE
10 MILES
NNW
NW
WNW
5239
54497
5066
214
129
207
52
143
0
0
0
0
0
0
0
0
0
0
0
0



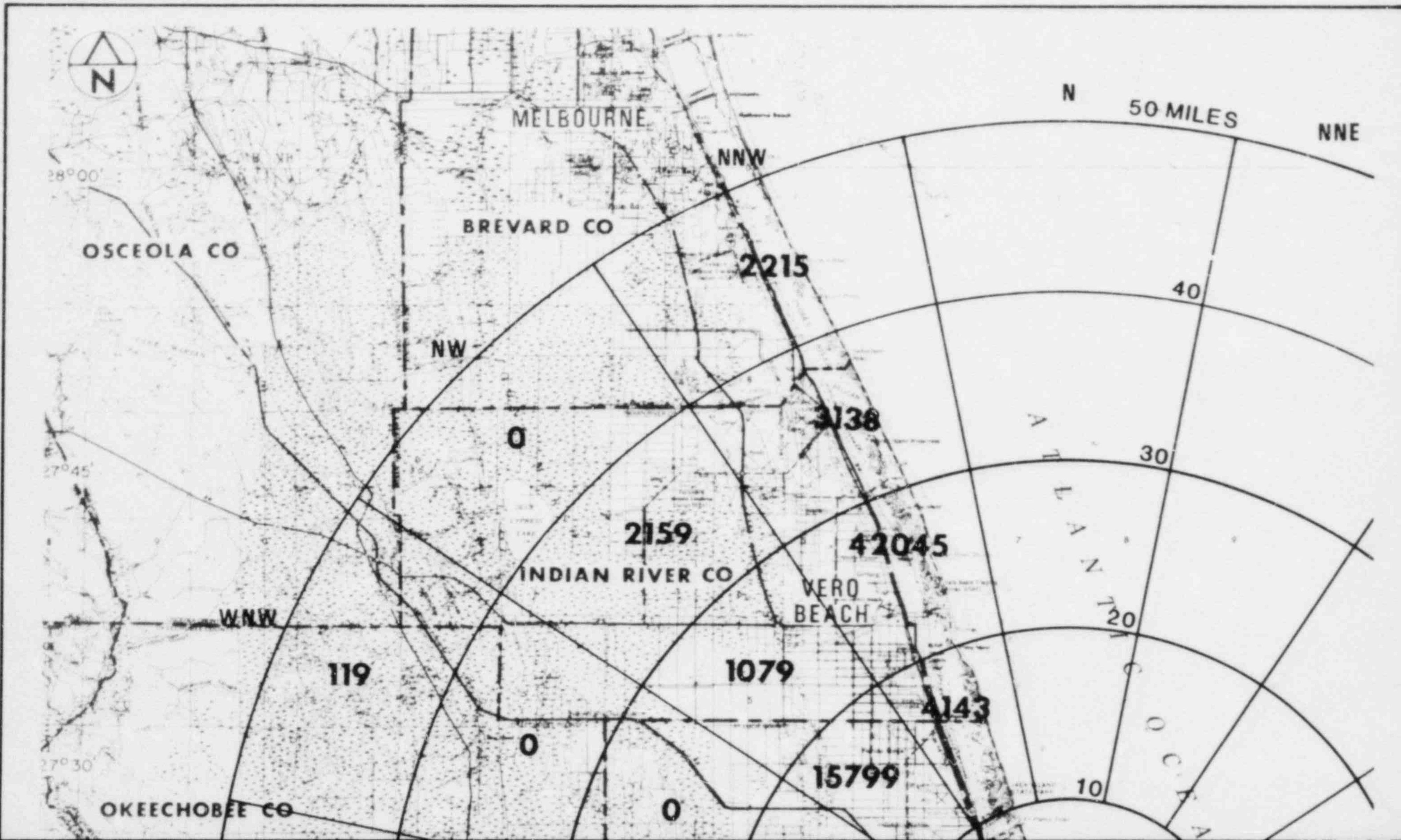
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
2030 RESIDENT POPULATION
WITHIN 10 MILES
SHEET 8 OF 8
FIGURE 2.1-6

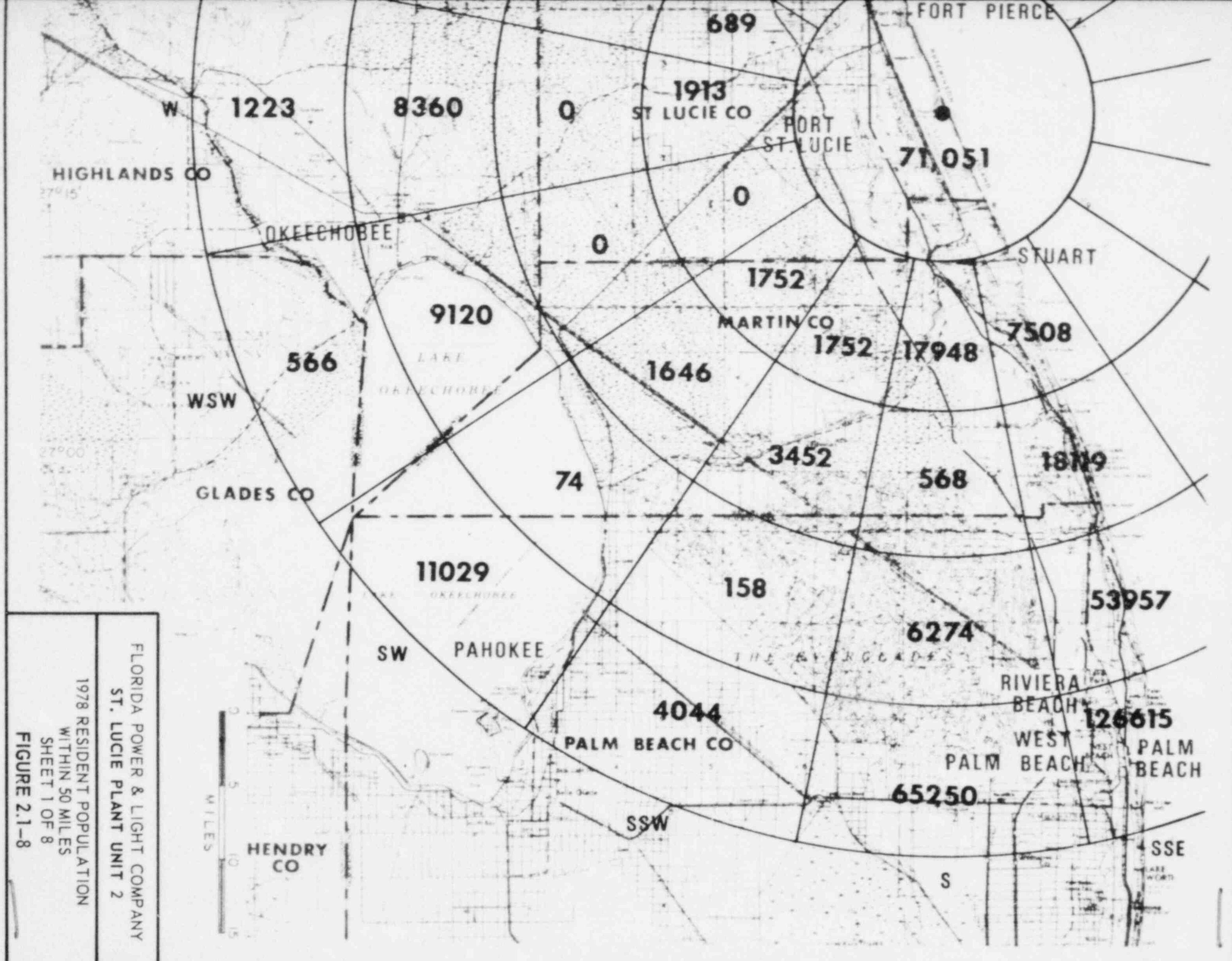

N
0 1 2 3 4
MILES
10 MILES
27° 30'
27° 25'
ATLANTIC OCEAN
SOUTH BEACH
(PART OF FORT PIERCE)
CITY OF FORT PIERCE
SAVANNAS RECREATION AREA
INDIAN RIVER ESTATES
COLLINS PARK ESTATES



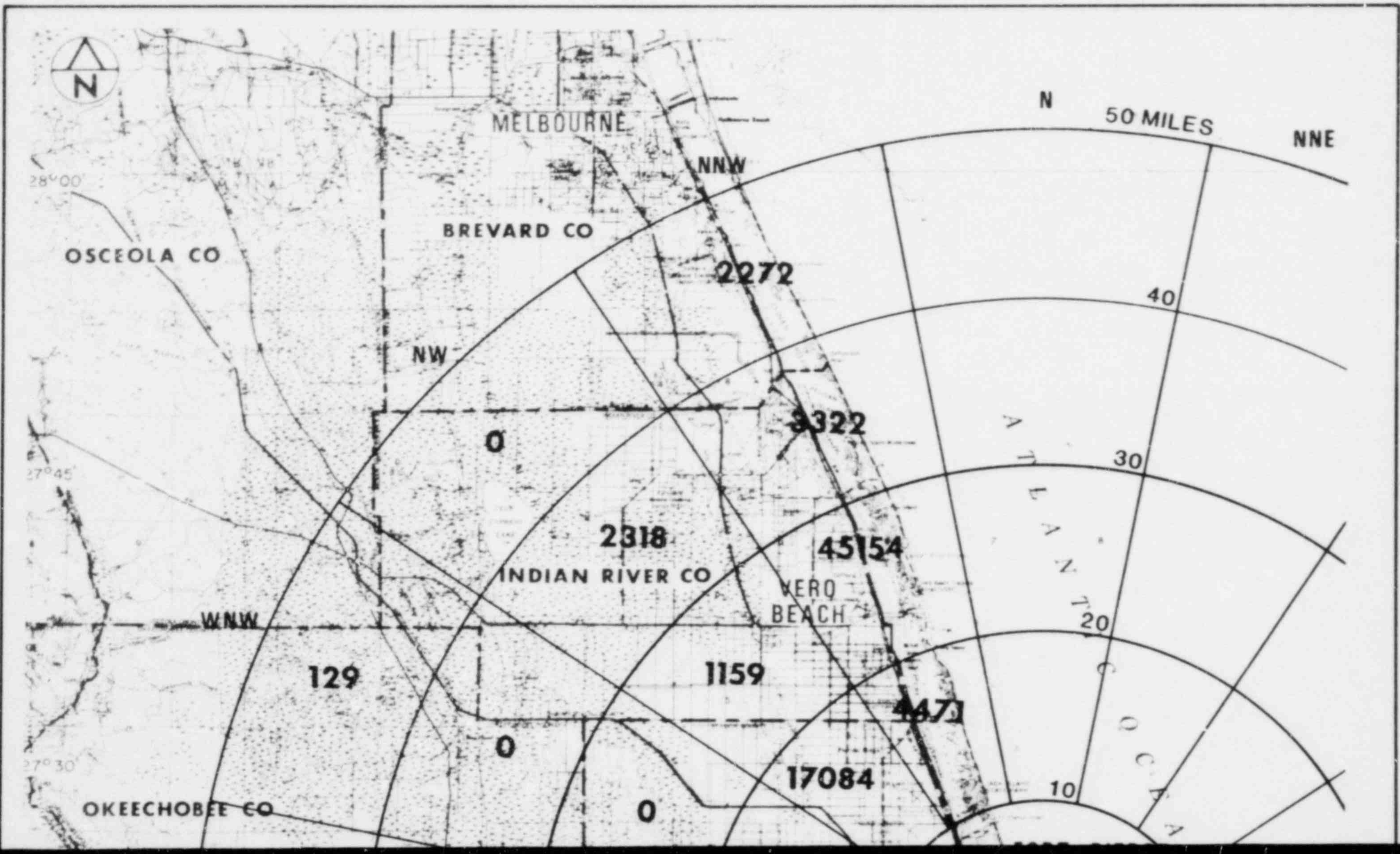
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

CITIES, TOWNS AND SETTLEMENTS
FIGURE 2.1-7

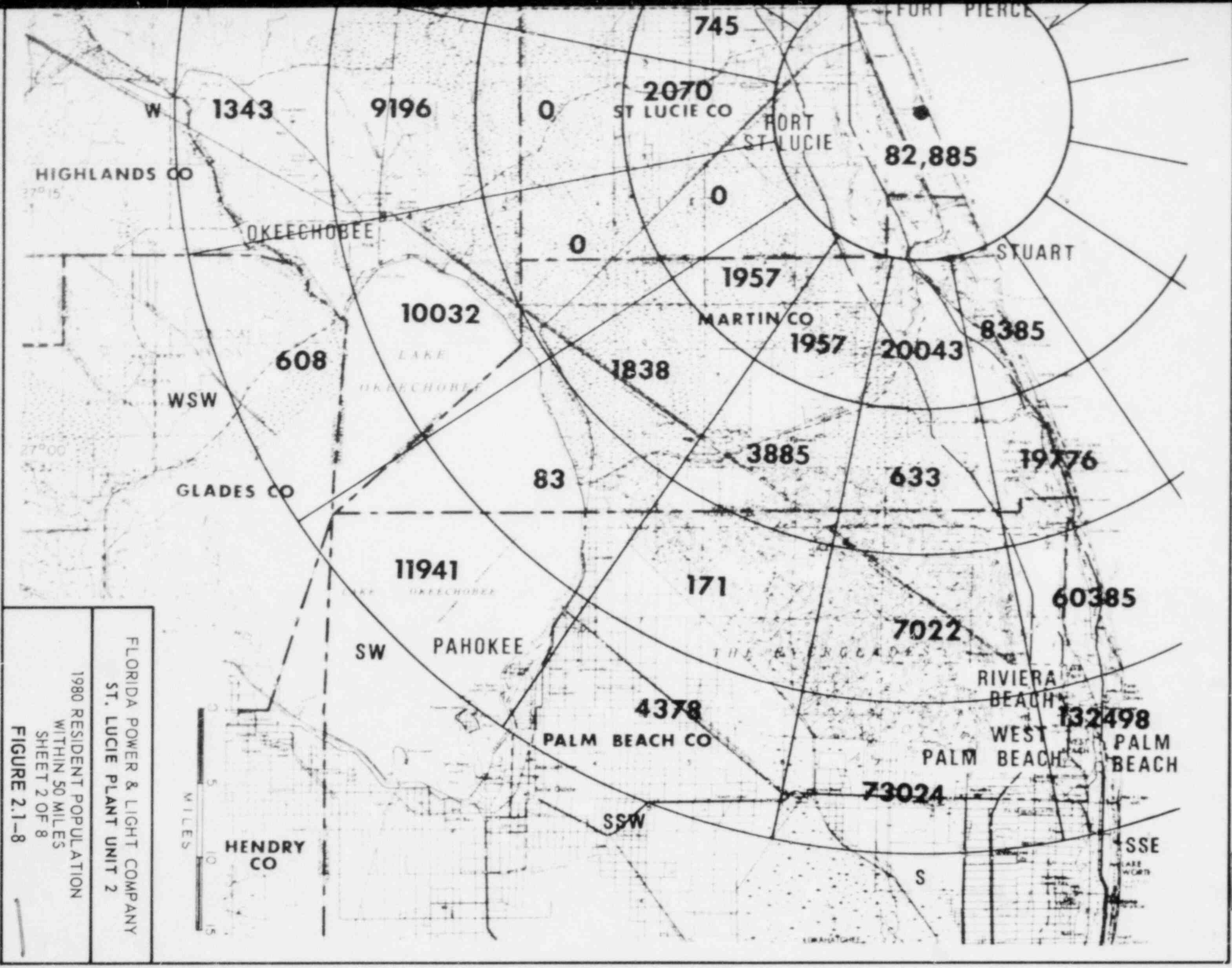

N
MELBOURNE
BREVARD CO
OSCEOLA CO
28°00'
27°45'
27°30'
NNW
NW
WNW
N
50 MILES
NNE
40
30
20
10
2215
3138
0
2159
42045
INDIAN RIVER CO
VERO
BEACH
119
1079
4143
0
15799
0
OKEECHOBEE CO
ATLANTIC OCEA



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
1978 RESIDENT POPULATION
WITHIN 50 MILES
SHEET 1 OF 8
FIGURE 2.1-8



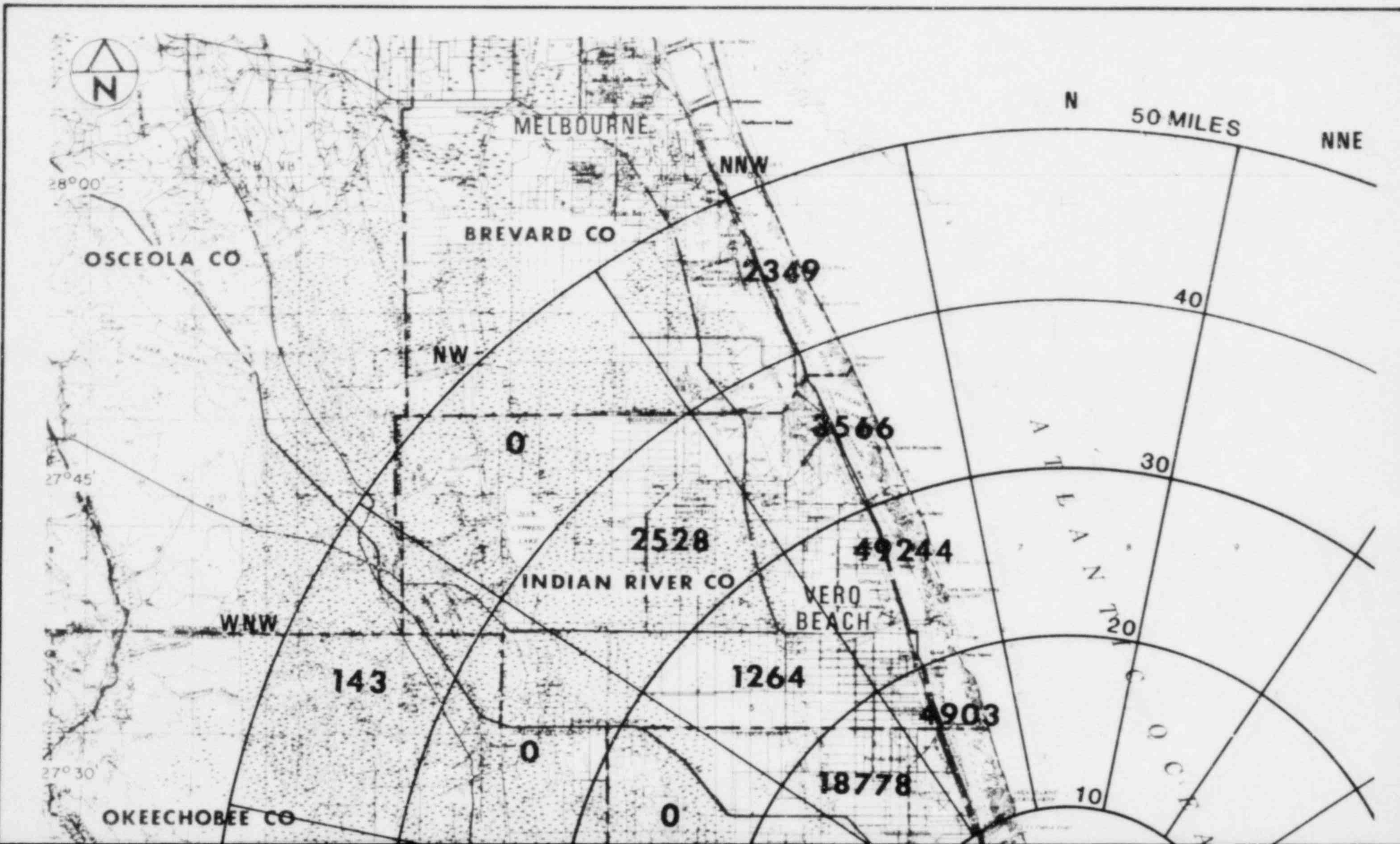
N
50 MILES
NNE
NNW
NW
WNW
40
30
20
10
MELBOURNE
BREVARD CO
OSCEOLA CO
INDIAN RIVER CO
OKEECHOBEE CO
VERO BEACH
ATLANTIC OCEAN
28°00'
27°45'
27°30'
2272
3322
45154
2318
0
129
1159
4471
17084
0
0



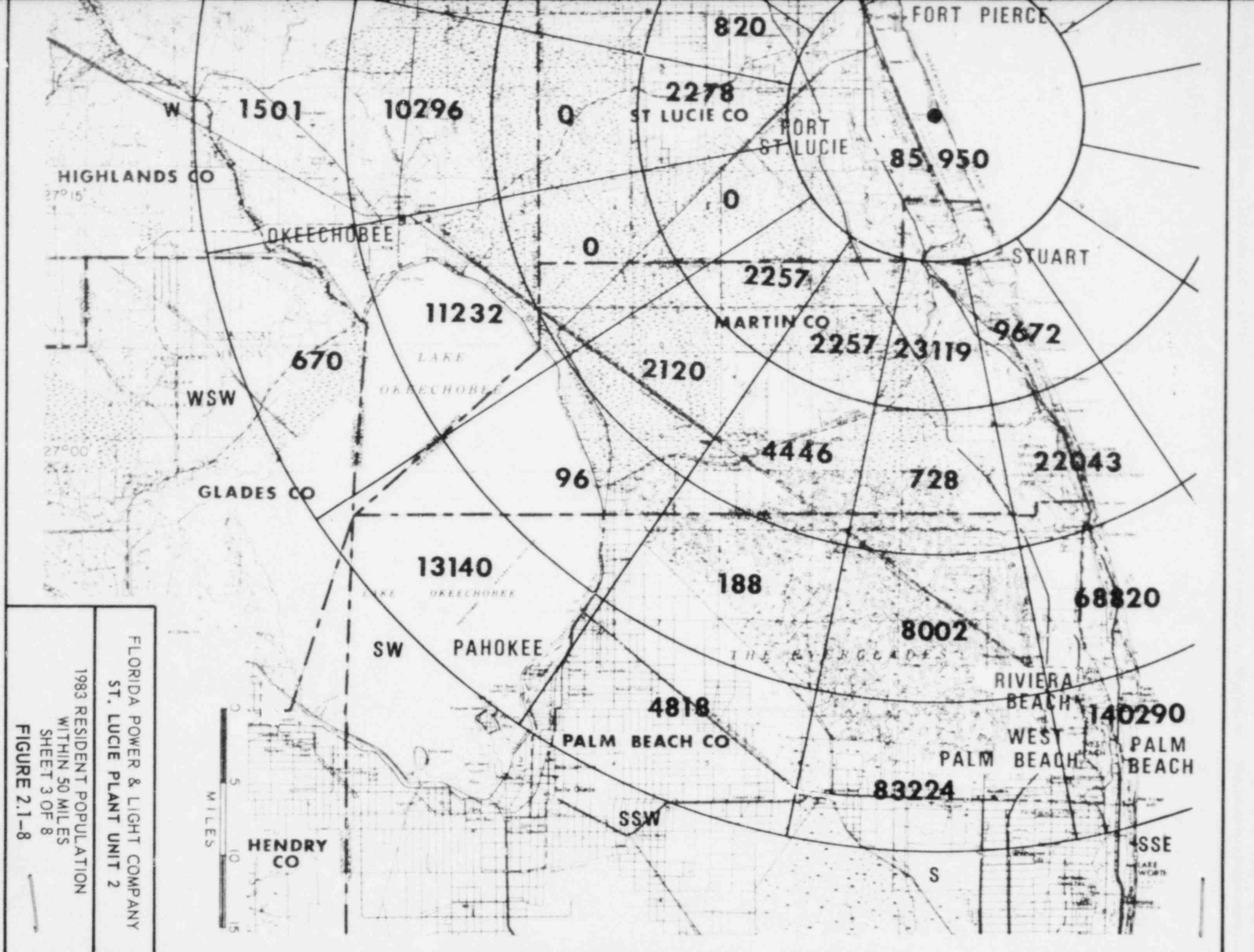
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

1980 RESIDENT POPULATION
WITHIN 50 MILES
SHEET 2 OF 8

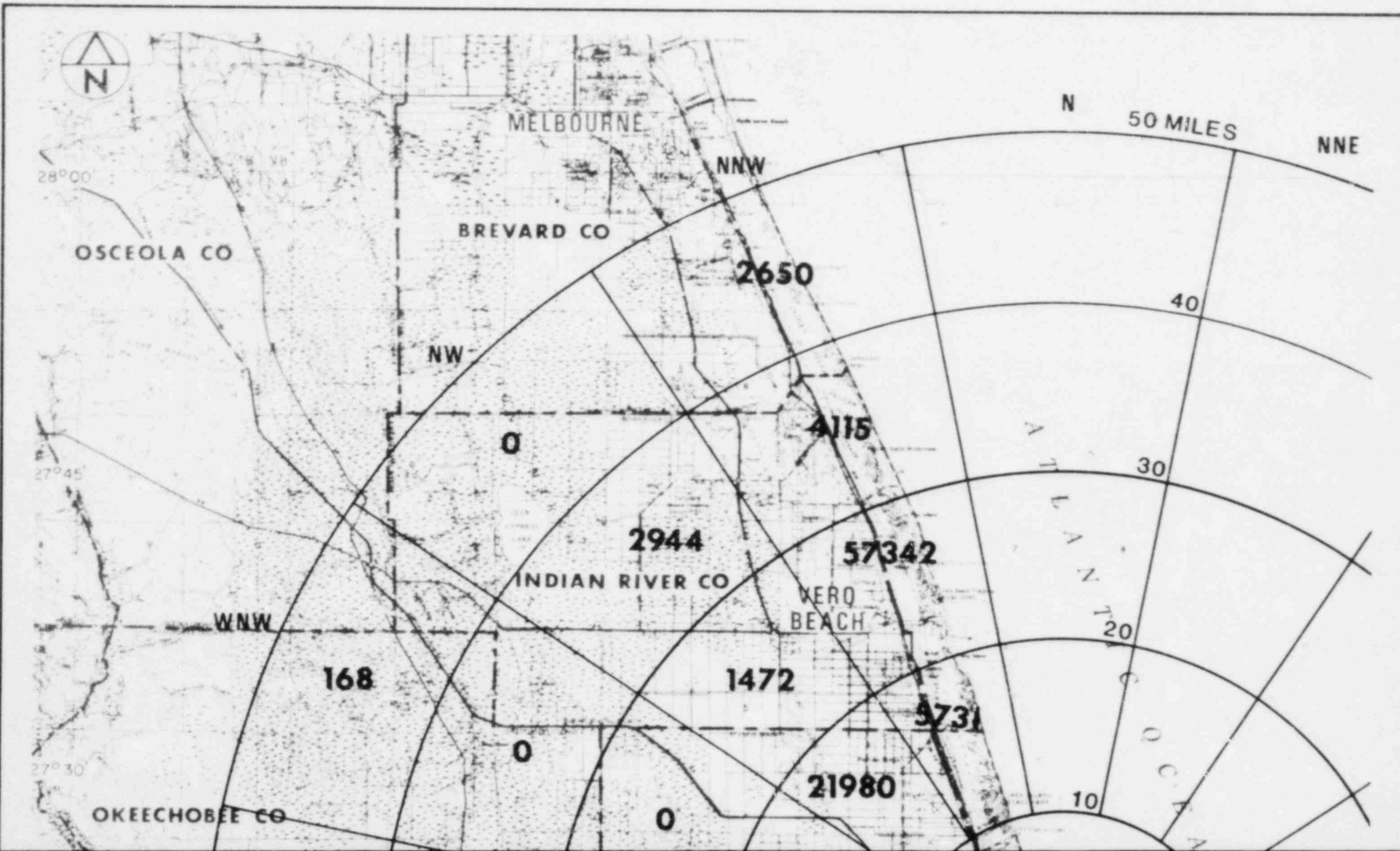
FIGURE 2.1-8

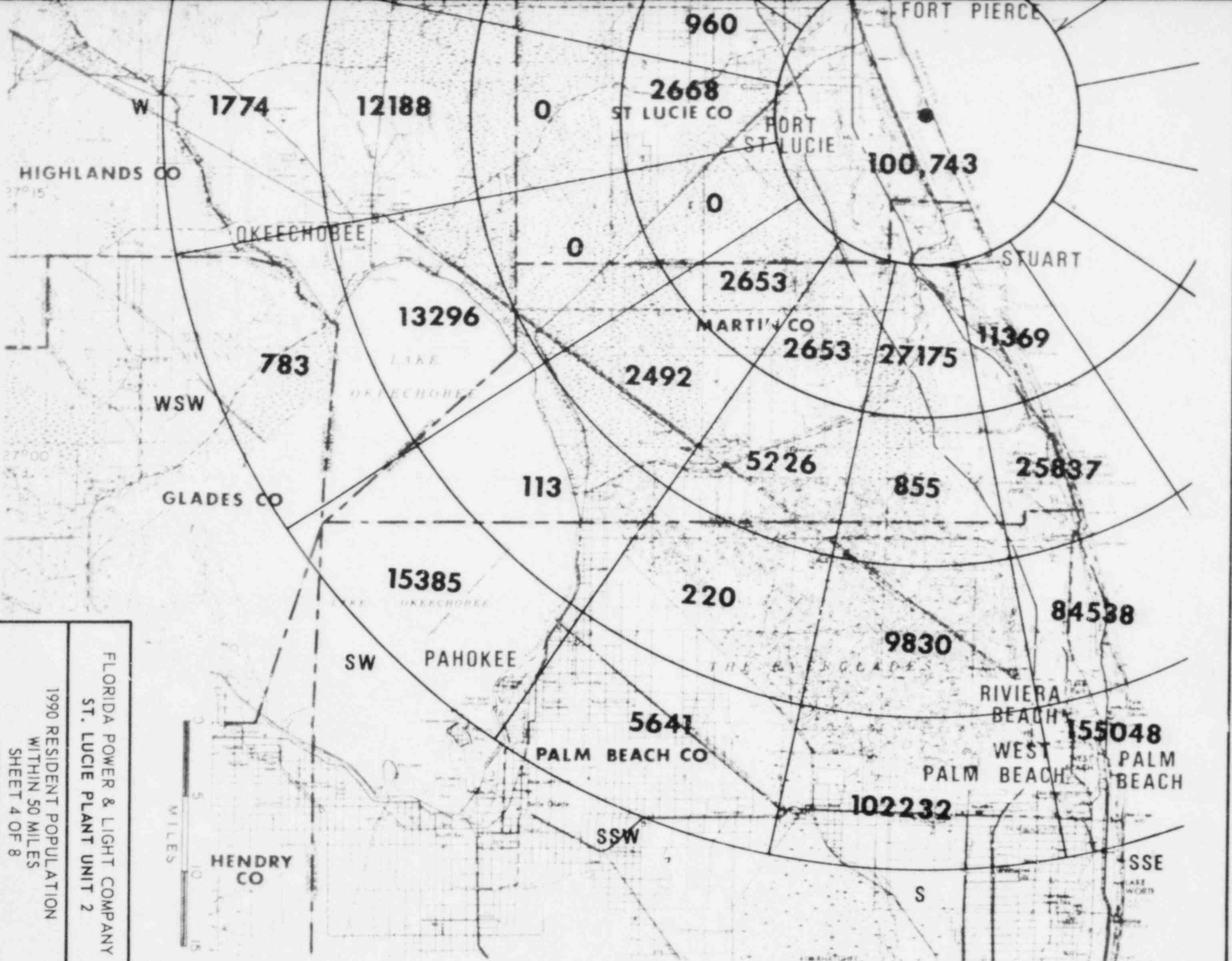


N
MELBOURNE
NNW
N
50 MILES
NNE
28°00'
BREVARD CO
OSCEOLA CO
2349
40
NW
3566
0
30
27°45'
2528
49244
INDIAN RIVER CO
VERO
BEACH
WNW
20
143
1264
4903
0
27°30'
18778
10
OKEECHOBEE CO
0
ATLANTIC OCEAN

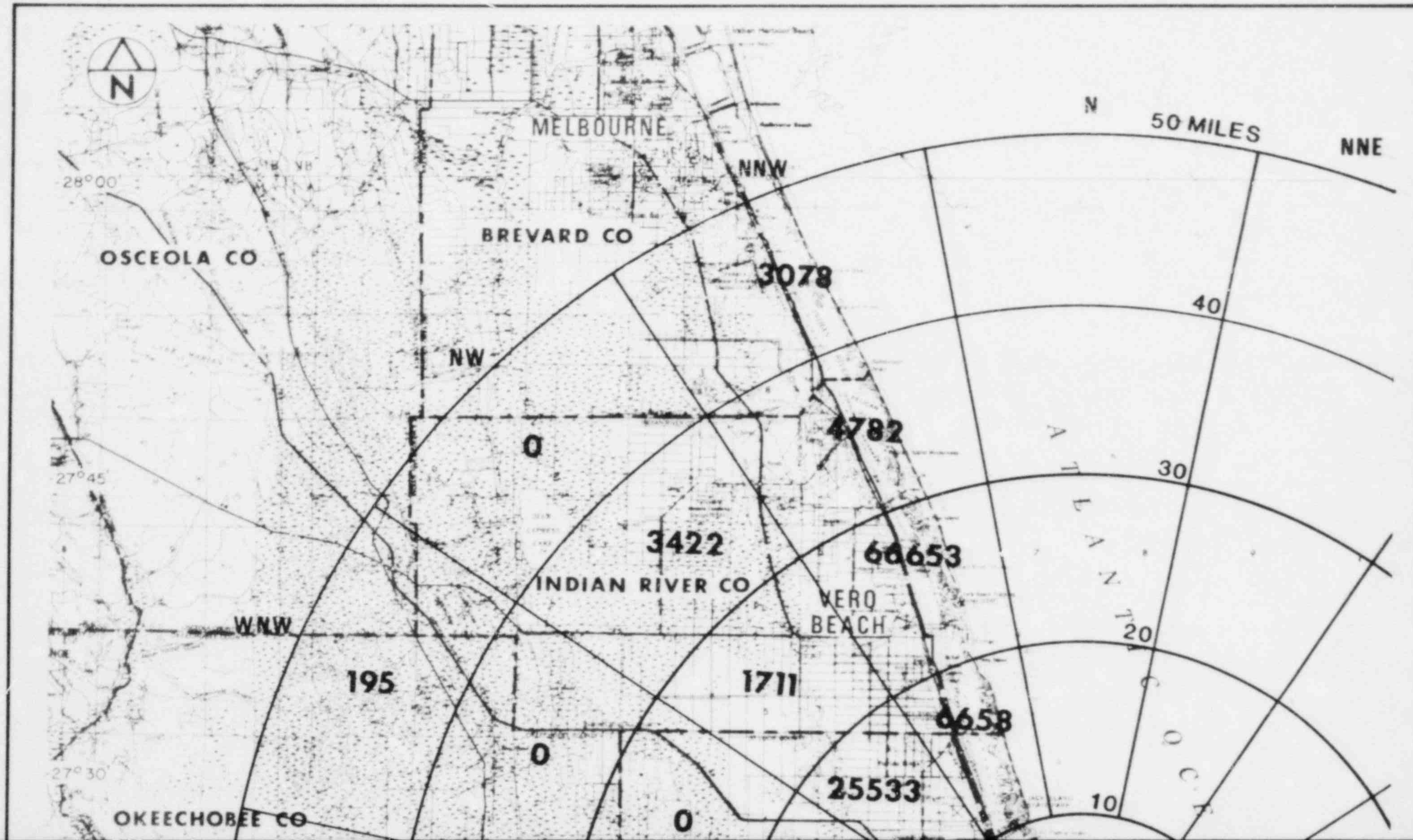


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
1983 RESIDENT POPULATION WITHIN 50 MILES SHEET 3 OF 8
FIGURE 2.1-8

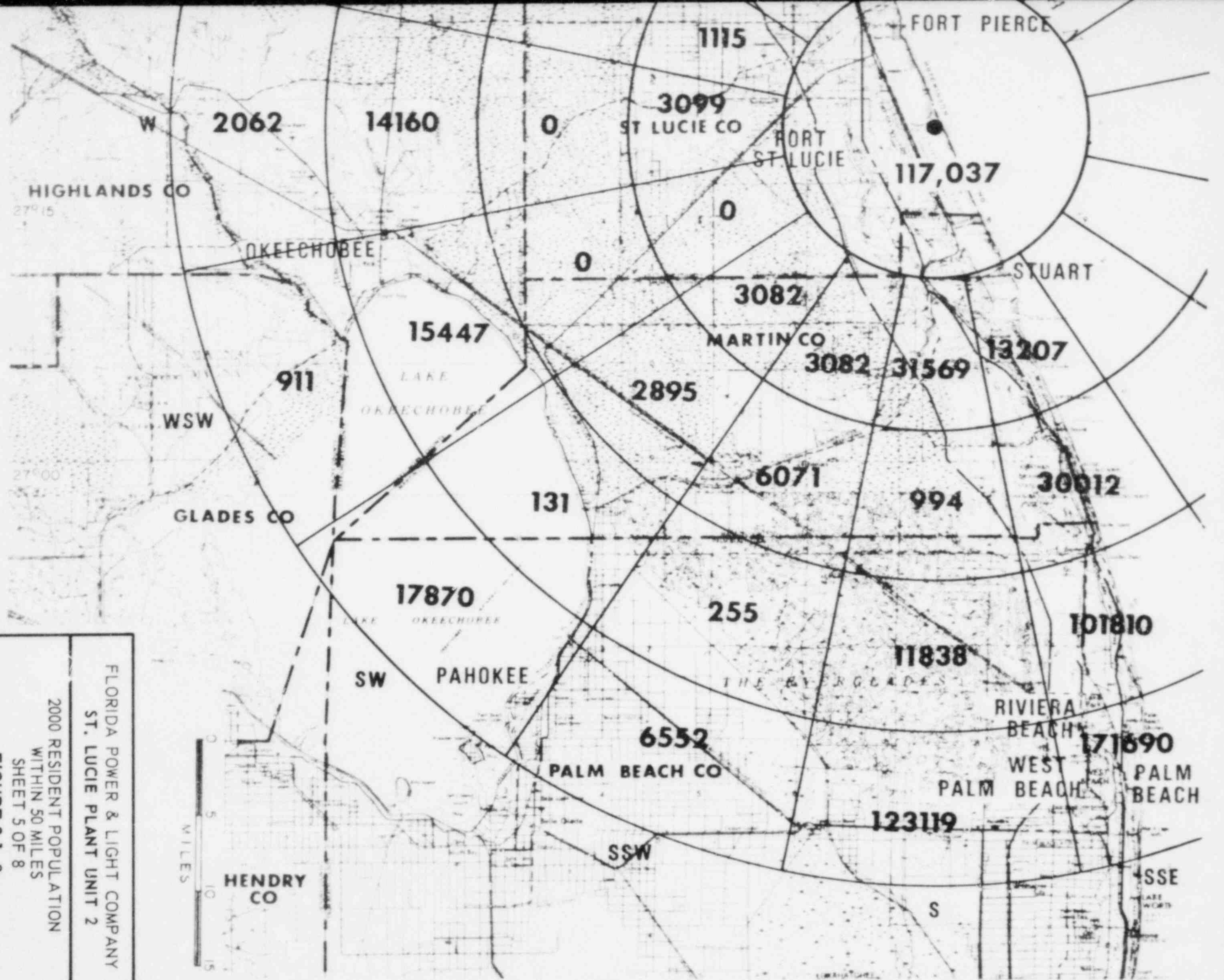

N
MELBOURNE
BREVARD CO
OSCEOLA CO
28°00'
27°45'
27°30'
NNW
NW
WNW
N
NNE
50 MILES
40
30
20
10
ATLANTIC OCEAN
2650
4115
57342
5731
0
2944
INDIAN RIVER CO
VERO BEACH
168
1472
0
21980
0
OKEECHOBEE CO



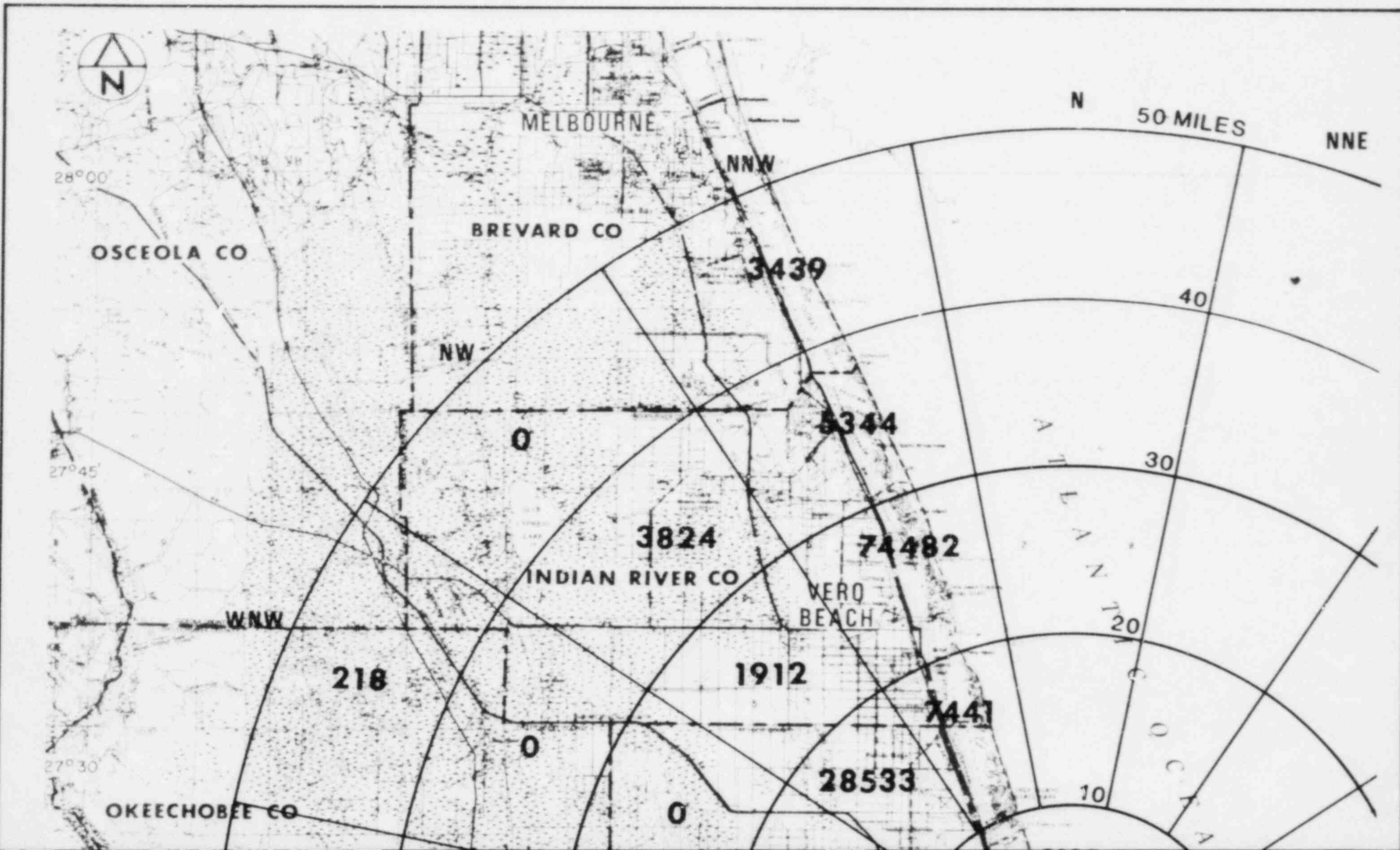
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
1990 RESIDENT POPULATION
WITHIN 50 MILES
SHEET 4 OF 8
FIGURE 2.1-8



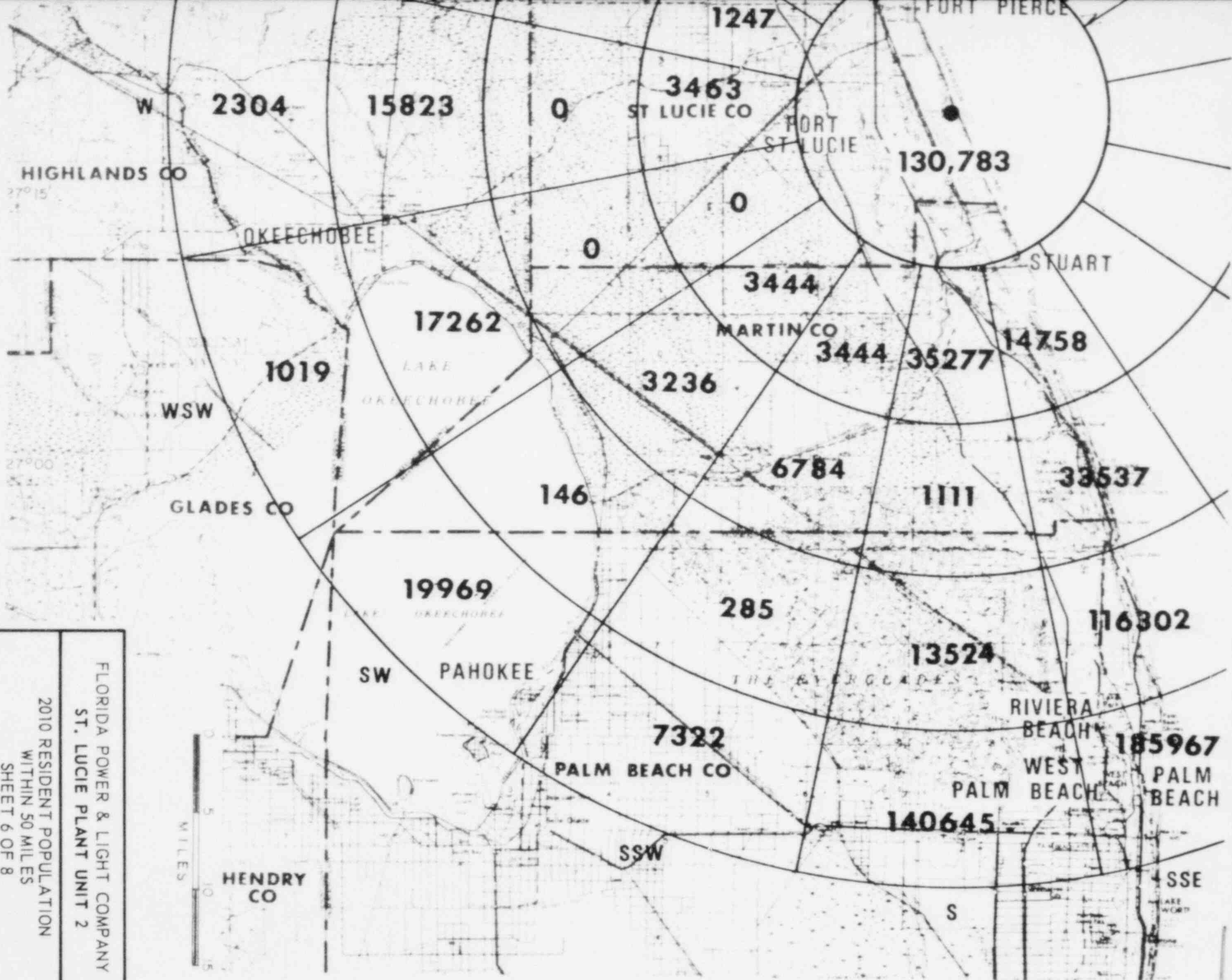
N
50 MILES
NNE
NNW
NW
WNW
MELBOURNE
BREVARD CO
OSCEOLA CO
INDIAN RIVER CO
OKEECHOBEE CO
VERO BEACH
ATLANTIC OC
28°00'
27°45'
27°30'
40
30
20
10
3078
4782
66653
6658
25533
3422
1711
195
0
0
0
0



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
2000 RESIDENT POPULATION
WITHIN 50 MILES
SHEET 5 OF 8
FIGURE 2.1-8

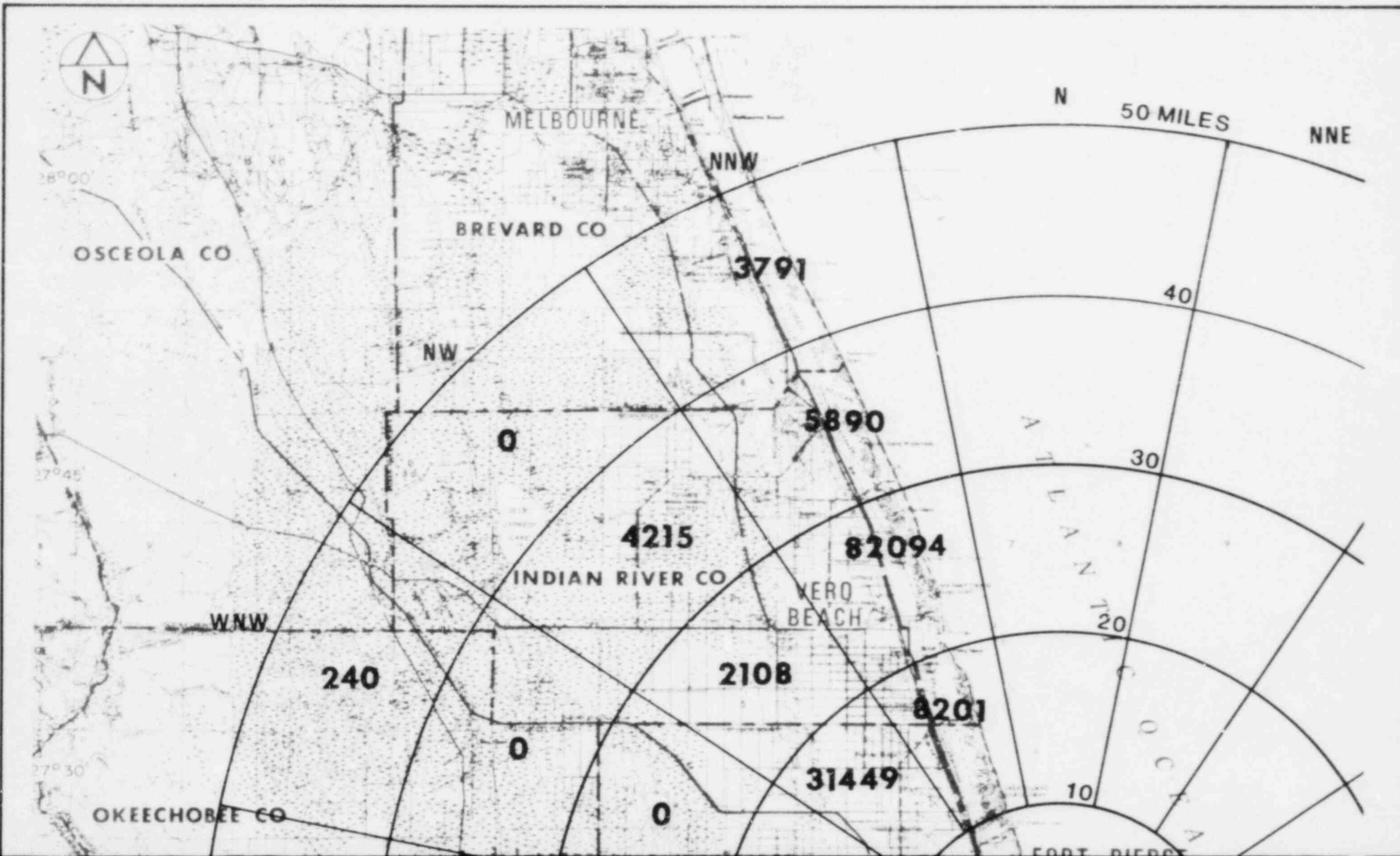


N
MELBOURNE
N
50 MILES
NNE
NNW
28°00'
BREVARD CO
OSCEOLA CO
3439
40
NW
0
5344
27°45'
30
3824
74482
INDIAN RIVER CO
VERO
BEACH
WNW
20
218
1912
7441
0
27°30'
28533
10
OKEECHOBEE CO
0
ATLANTIC OCEAN

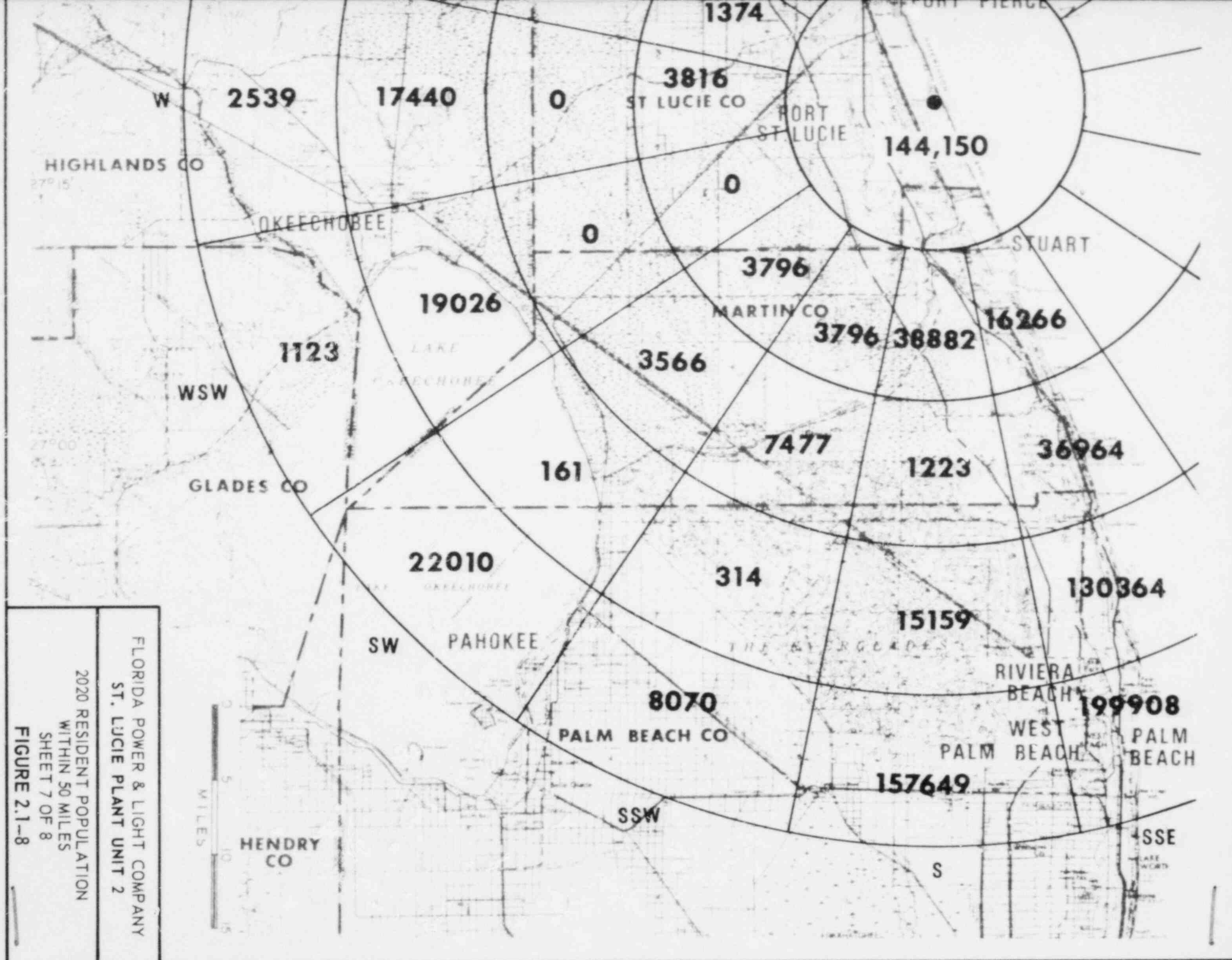


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2010 RESIDENT POPULATION
WITHIN 50 MILES
SHEET 6 OF 8
FIGURE 2.1-8



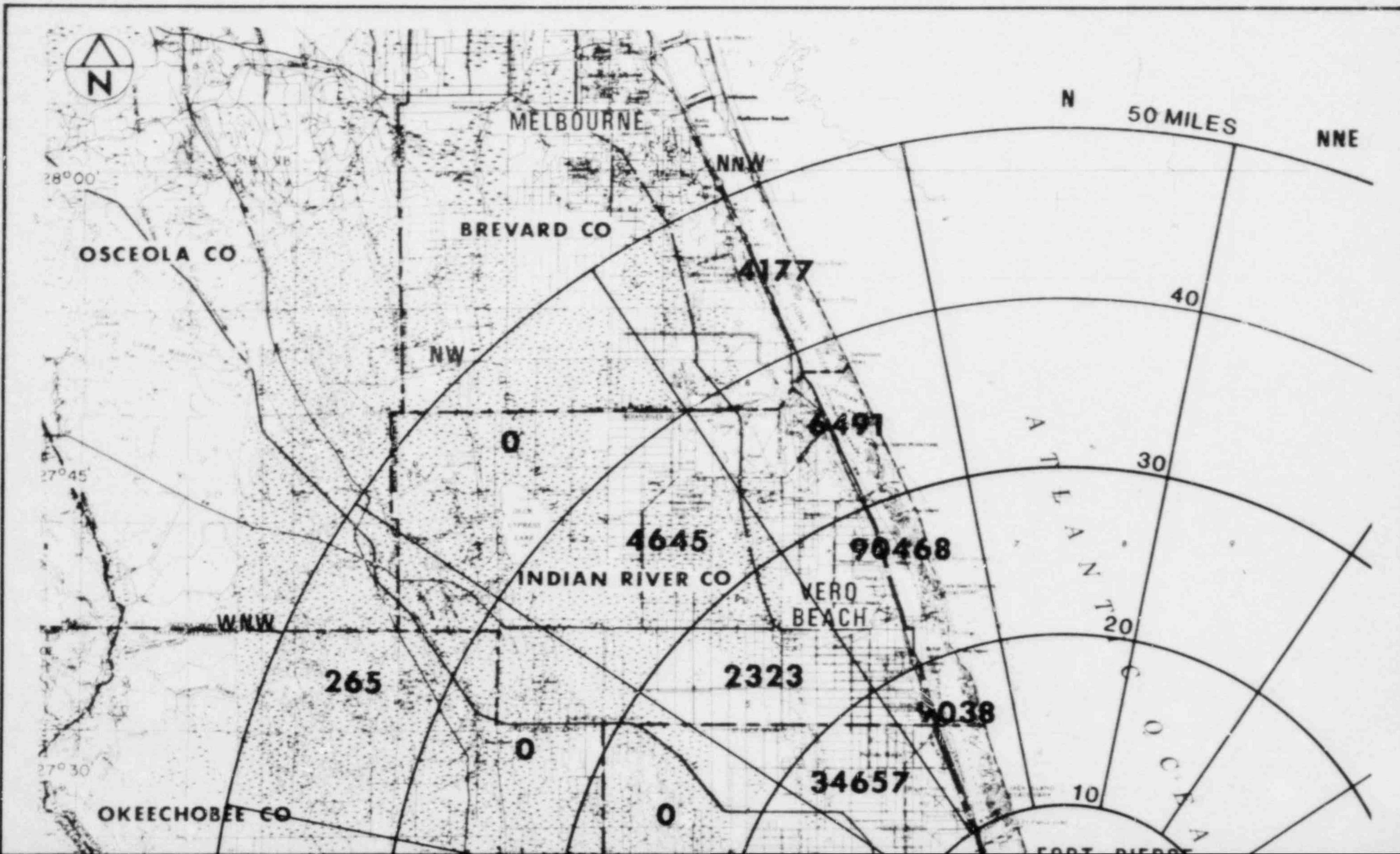
N
MELBOURNE
BREVARD CO
OSCEOLA CO
N
50 MILES
NNE
NNW
NW
3791
40
5890
0
30
4215
82094
INDIAN RIVER CO
VERO BEACH
WNW
20
240
2108
8201
0
31449
10
OKEECHOBEE CO
0



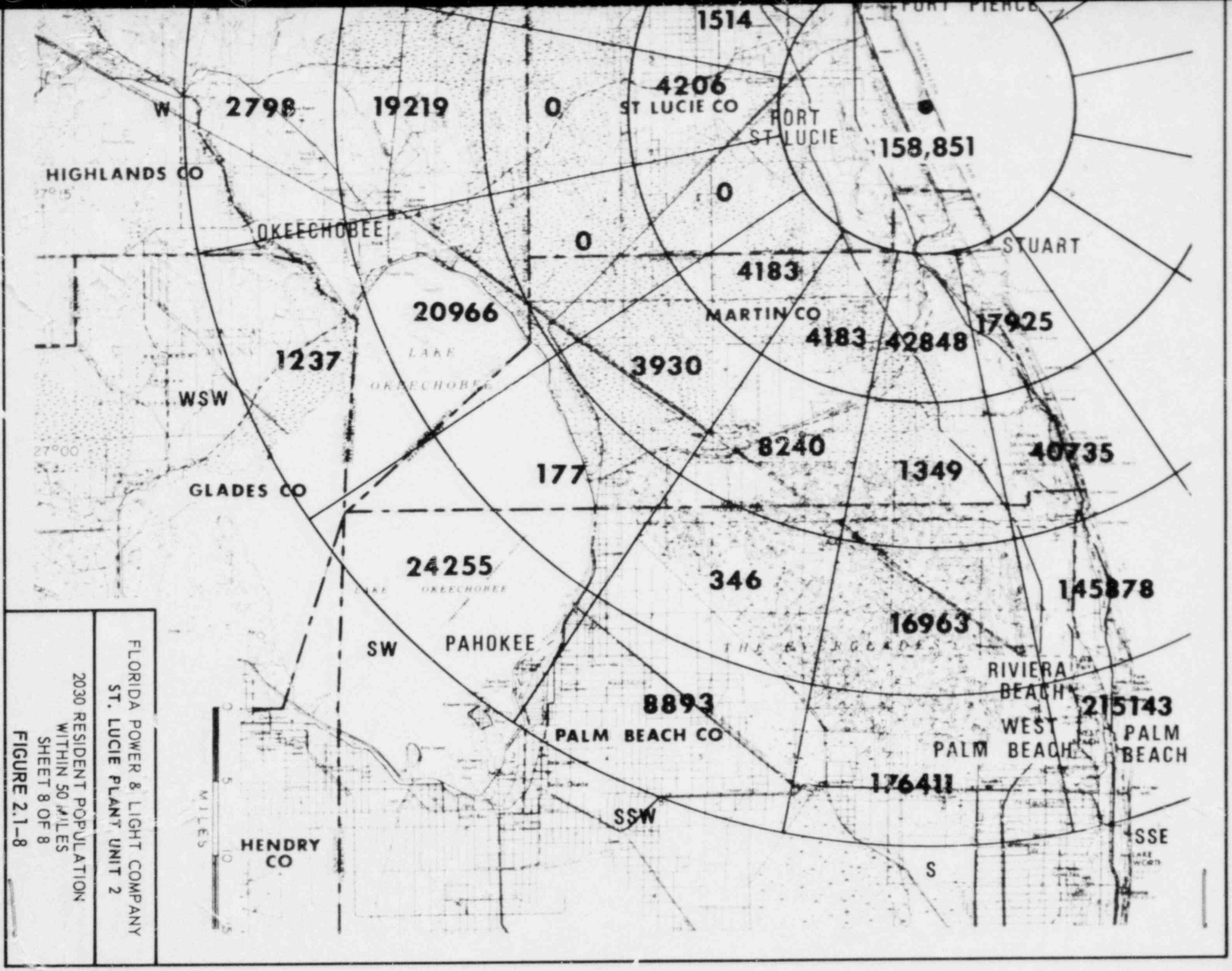
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2020 RESIDENT POPULATION
WITHIN 50 MILES
SHEET 7 OF 8

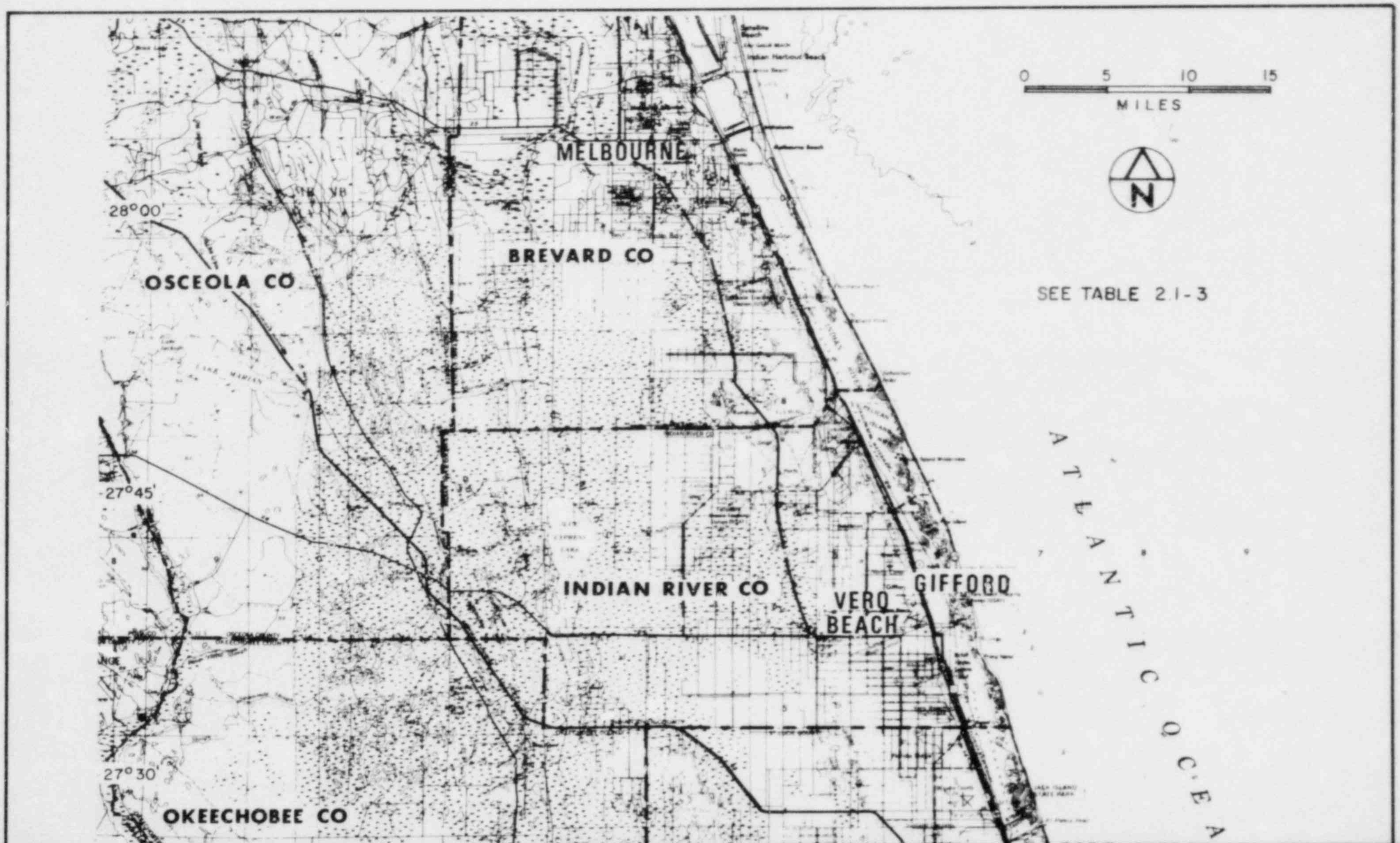
FIGURE 2.1-8



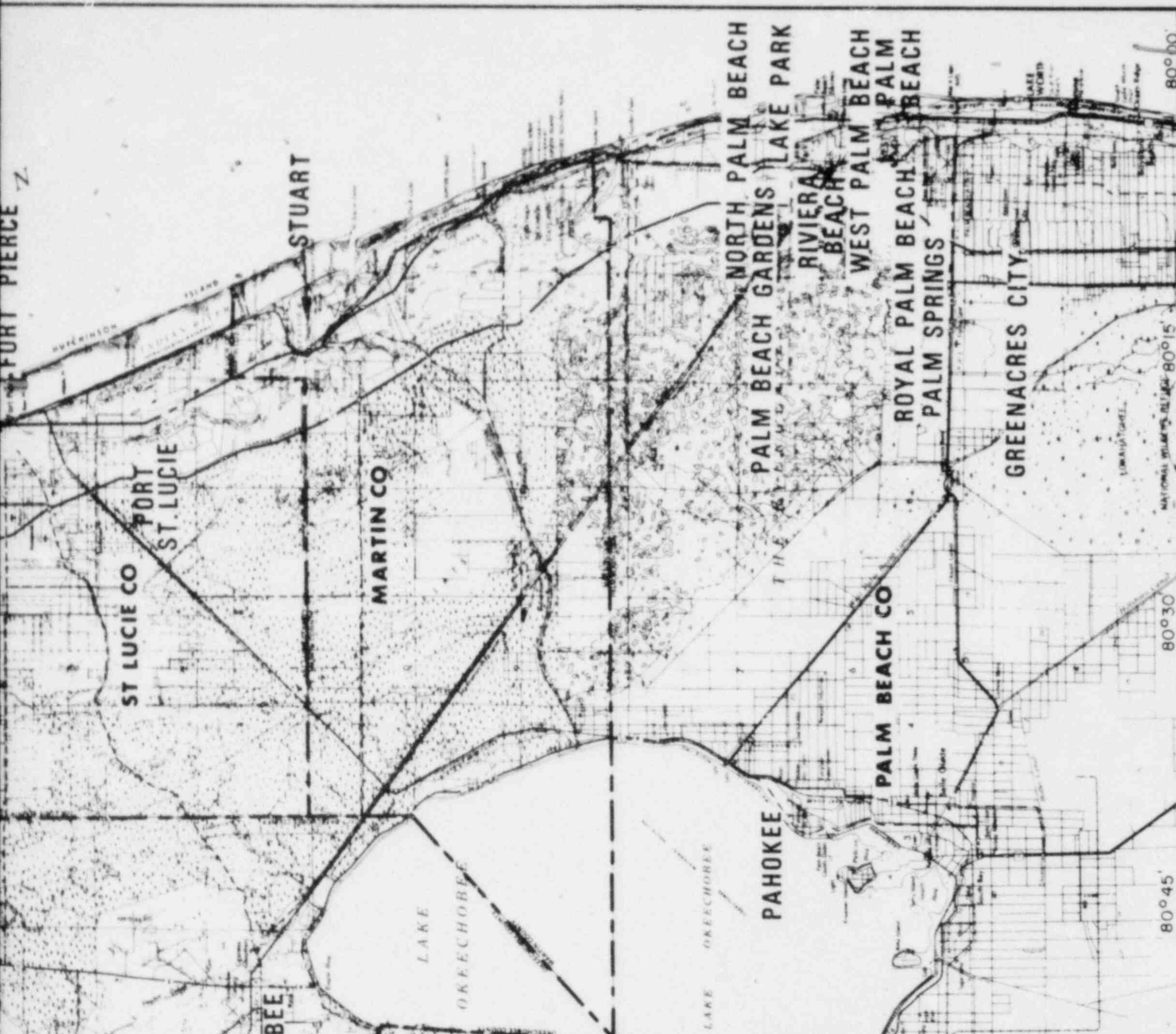
N
50 MILES
NNE
MELBOURNE
NNW
28°00'
BREVARD CO
OSCEOLA CO
4177
40
NW
0
6491
27°45'
30
4645
90468
INDIAN RIVER CO
VERO BEACH
WNW
20
265
2323
9038
0
27°30'
34657
10
OKEECHOBEE CO
0



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
2030 RESIDENT POPULATION
WITHIN 50 MILES
SHEET 8 OF 8
FIGURE 2.1-8



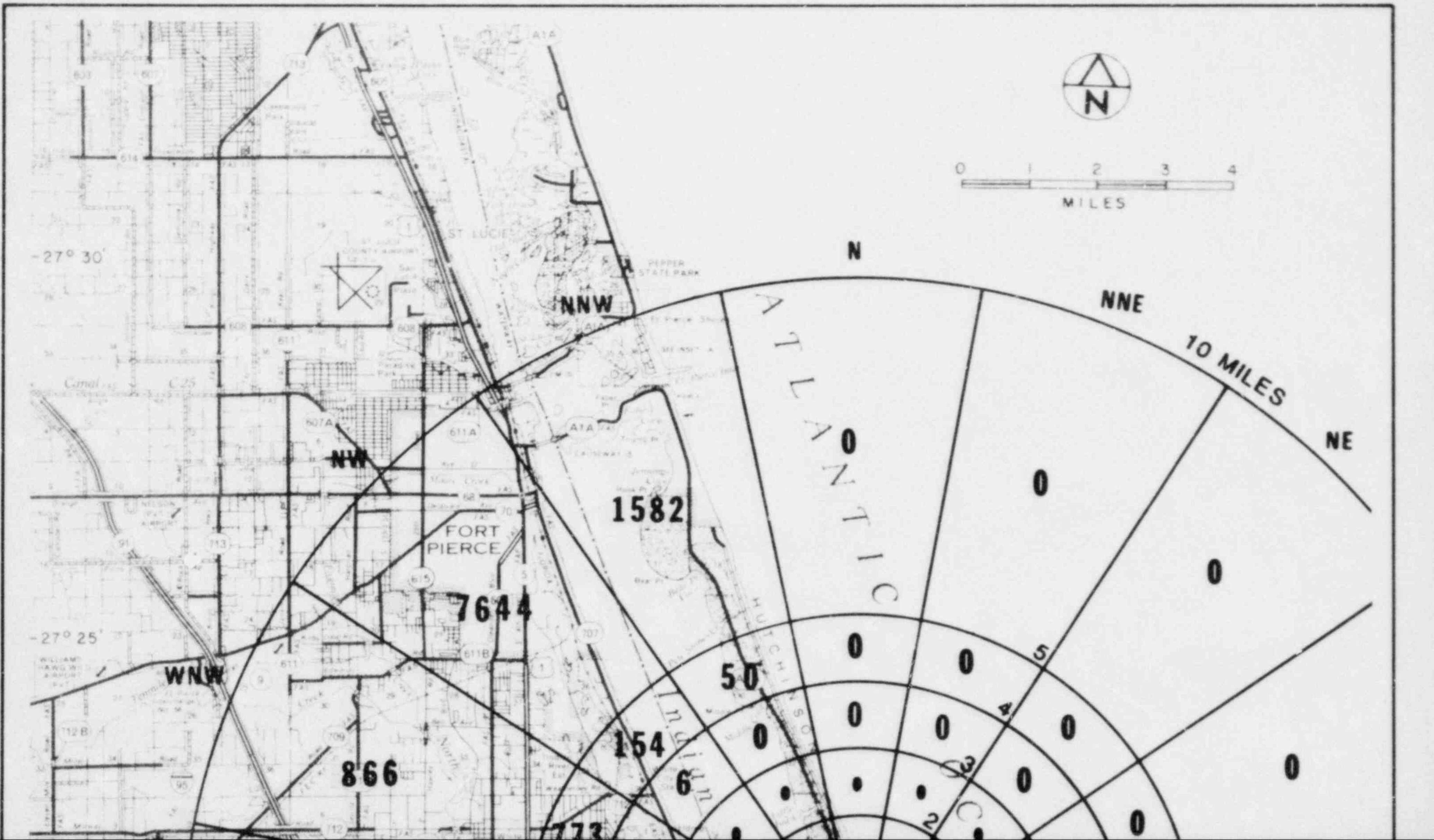
0 5 10 15
MILES
N
SEE TABLE 2.1-3
MELBOURNE
BREVARD CO
OSCEOLA CO
28°00'
27°45'
27°30'
INDIAN RIVER CO
VERO BEACH
GIFFORD
OKEECHOBEE CO
ATLANTIC OCEA

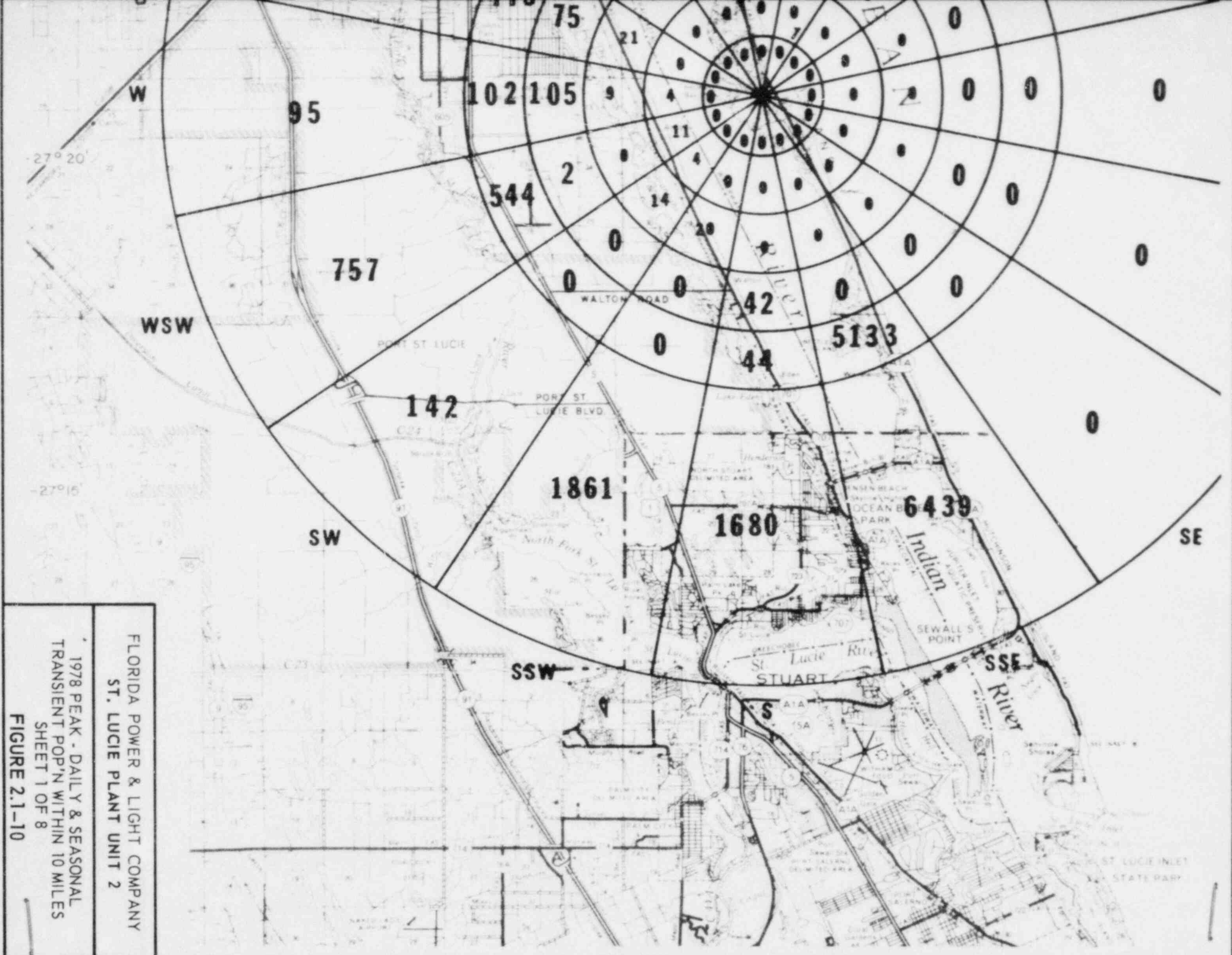


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

CITIES, TOWNS AND COMMUNITIES OF OVER 5000 WITHIN 50 MILES

FIGURE 2.1-9

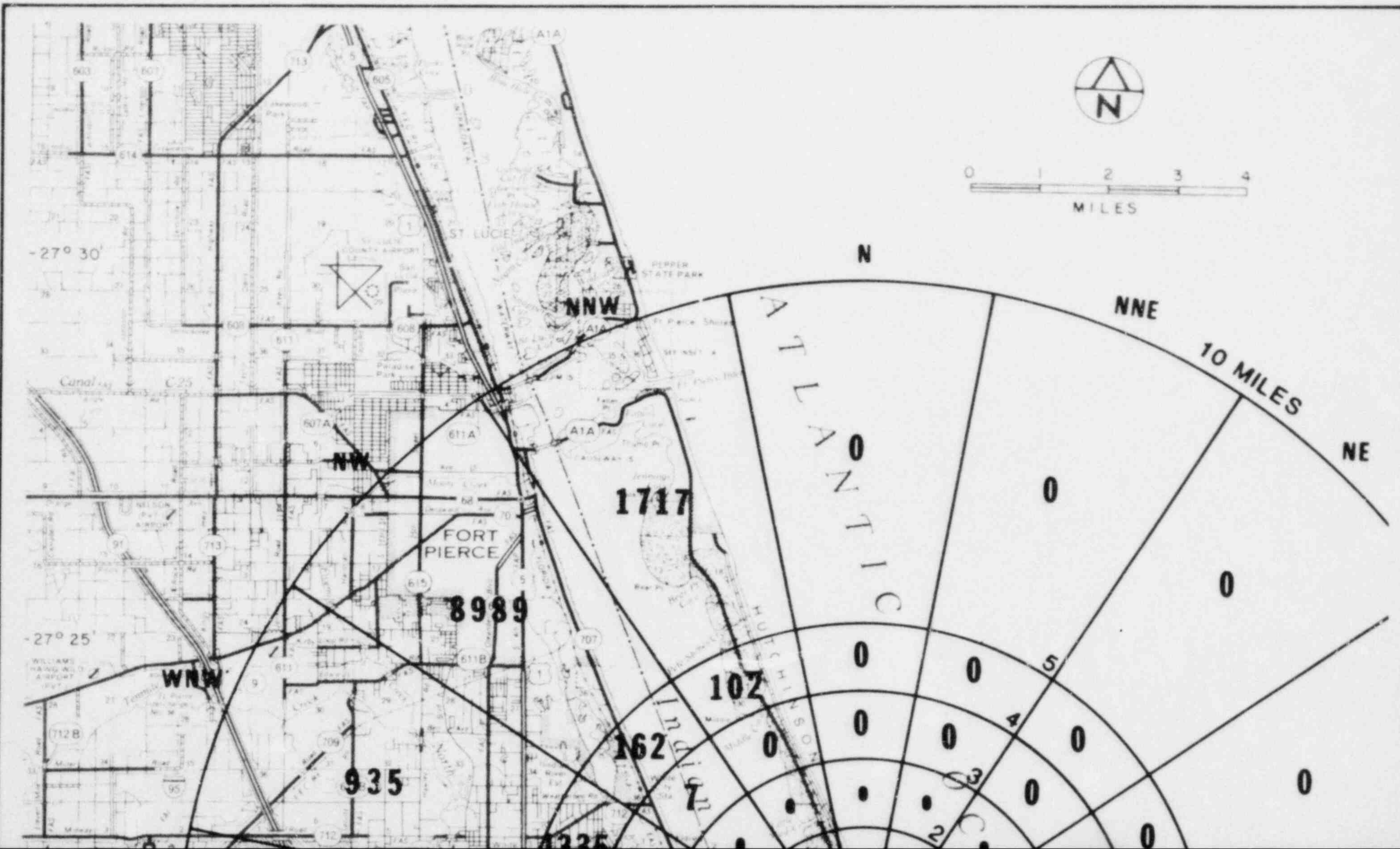

N
0 1 2 3 4
MILES
-27° 30'
-27° 25'
ST LUCIE
PEPPER STATE PARK
NNW
NNE
10 MILES
NE
NW
WNW
FORT PIERCE
ATLANTIC
1582
7644
50
154
6
866
0
5
4
3
2

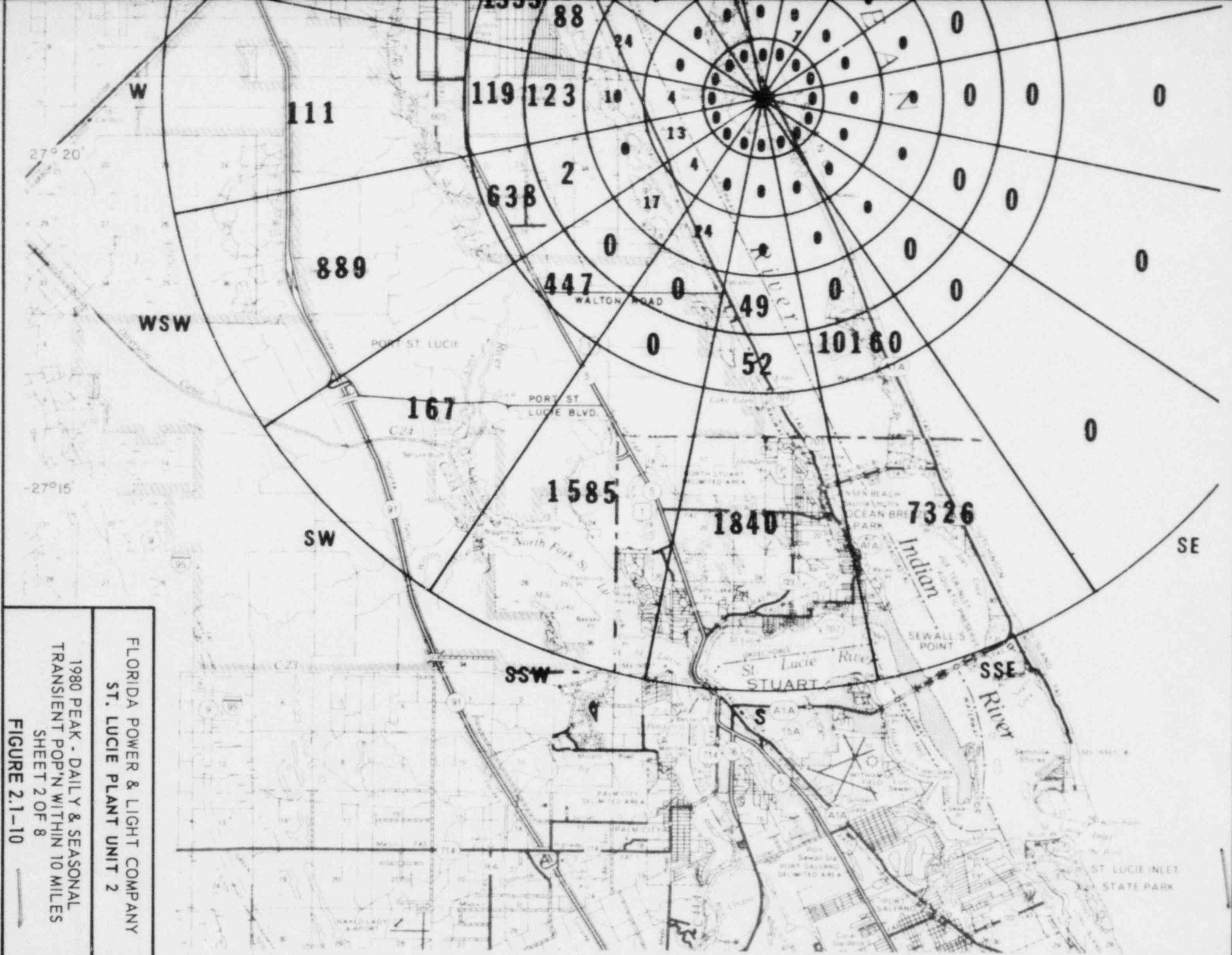


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

1978 PEAK - DAILY & SEASONAL TRANSIENT POP'N WITHIN 10 MILES
SHEET 1 OF 8

FIGURE 2.1-10

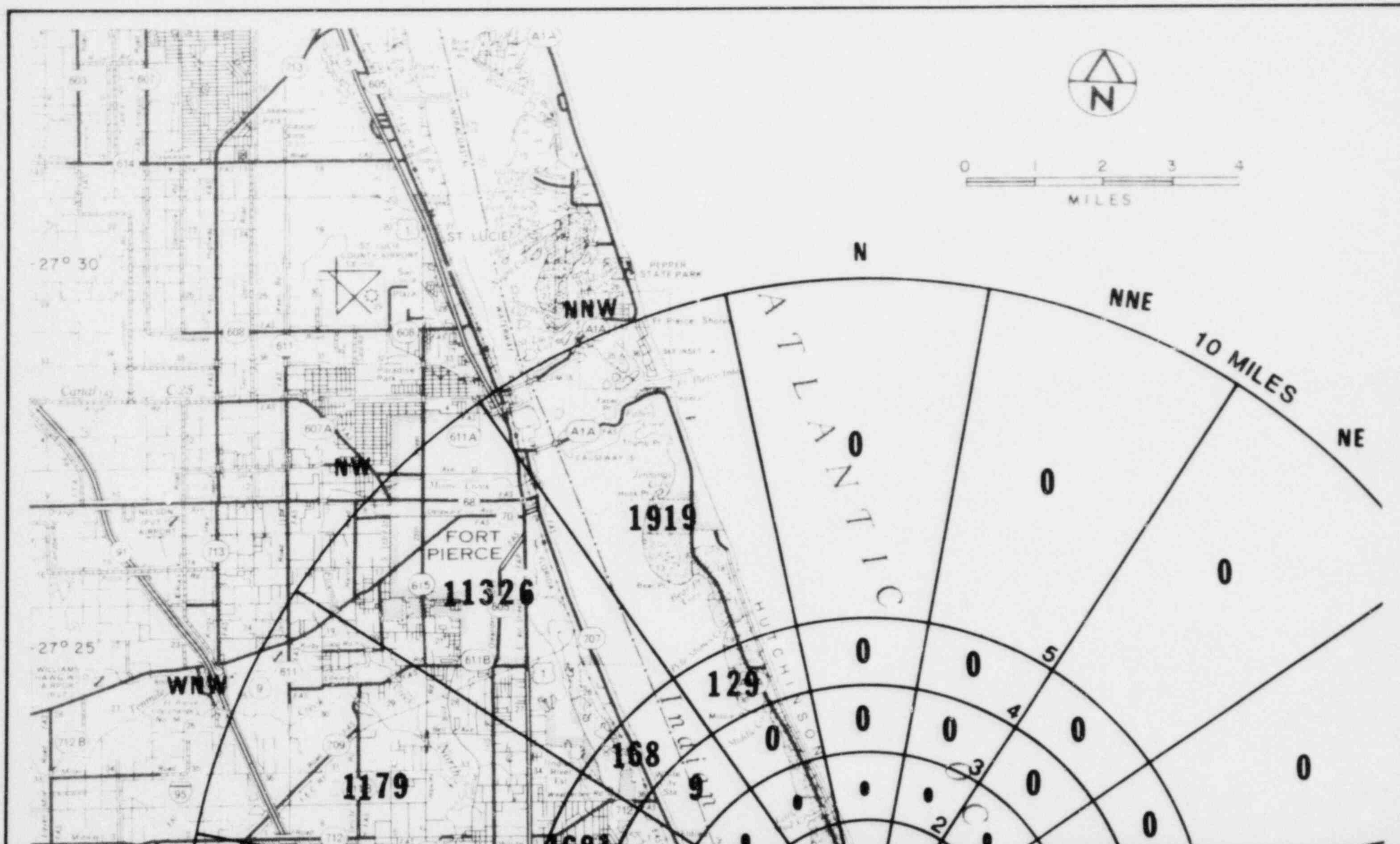

N
MILES
0
1
2
3
4
N
NNE
10 MILES
NE
NNW
NW
WNW
ATLANTIC
OCEAN
Indian
HUTCHINSON
FORT PIERCE
ST. LUCIE
PEPPER STATE PARK
-27° 30'
-27° 25'
Canal C-25
1717
8989
935
102
162
7
4335
0
5
4
3
2



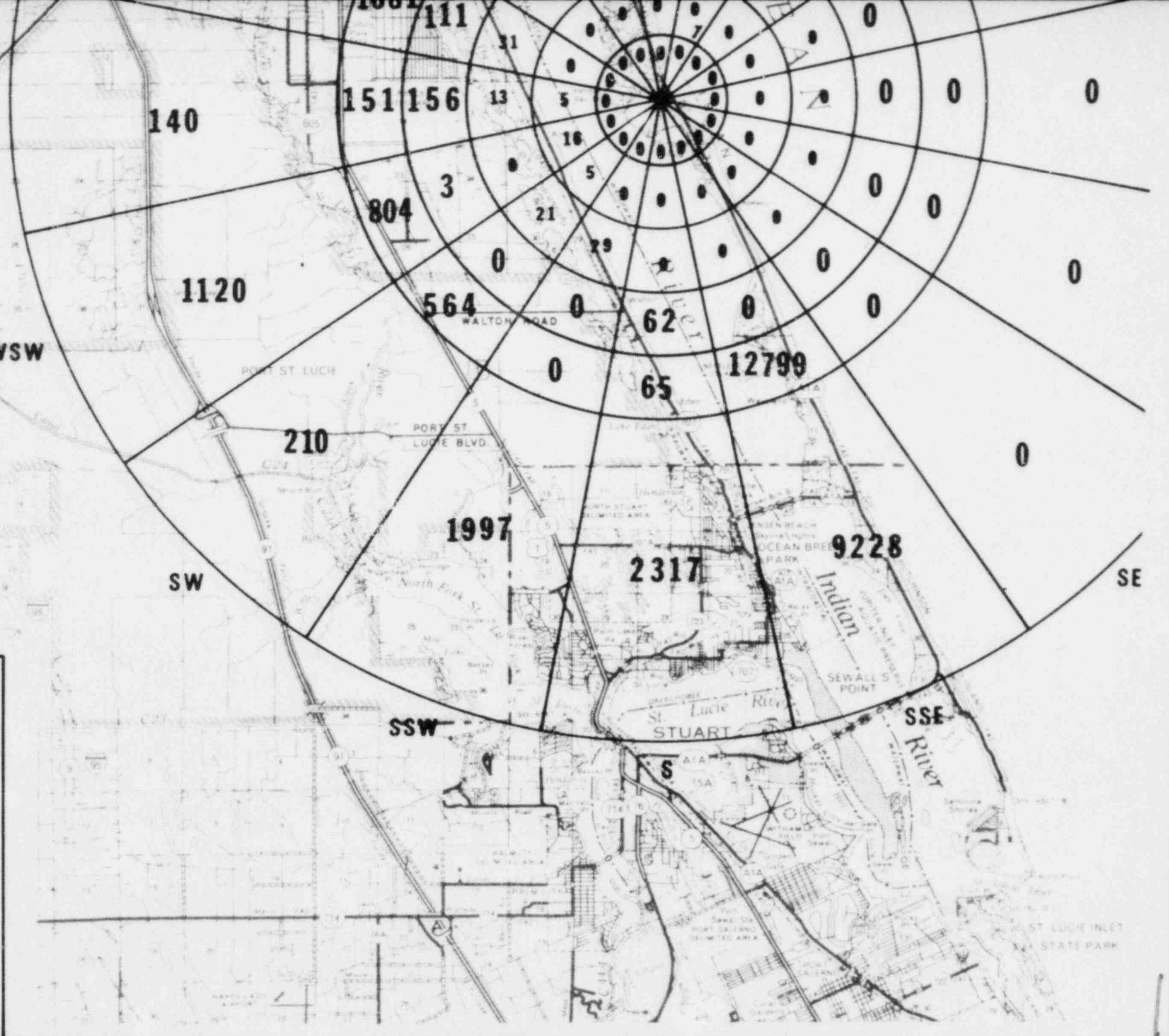
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

1980 PEAK - DAILY & SEASONAL TRANSIENT POP'N WITHIN 10 MILES
SHEET 2 OF 8

FIGURE 2.1-10



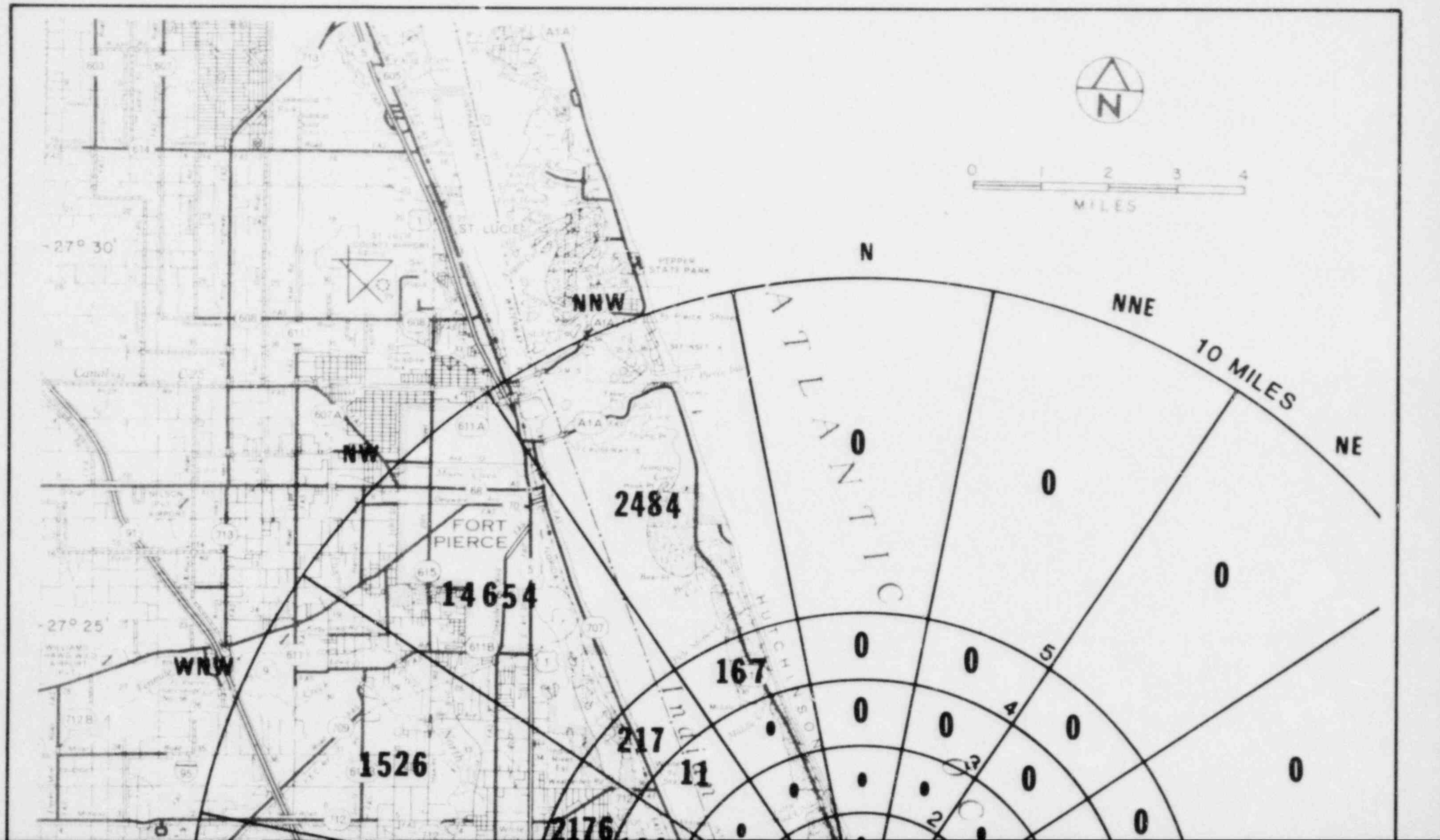
N
0 1 2 3 4
MILES
N
NNE
10 MILES
NE
NNW
NW
WNW
ATLANTIC
FORT PIERCE
ST LUCIE
PEPPER STATE PARK
-27° 30'
-27° 25'
1919
11326
129
168
1179
0
0
0
0
0
0
0
0
0
0
0
0
9
5
4
3
2



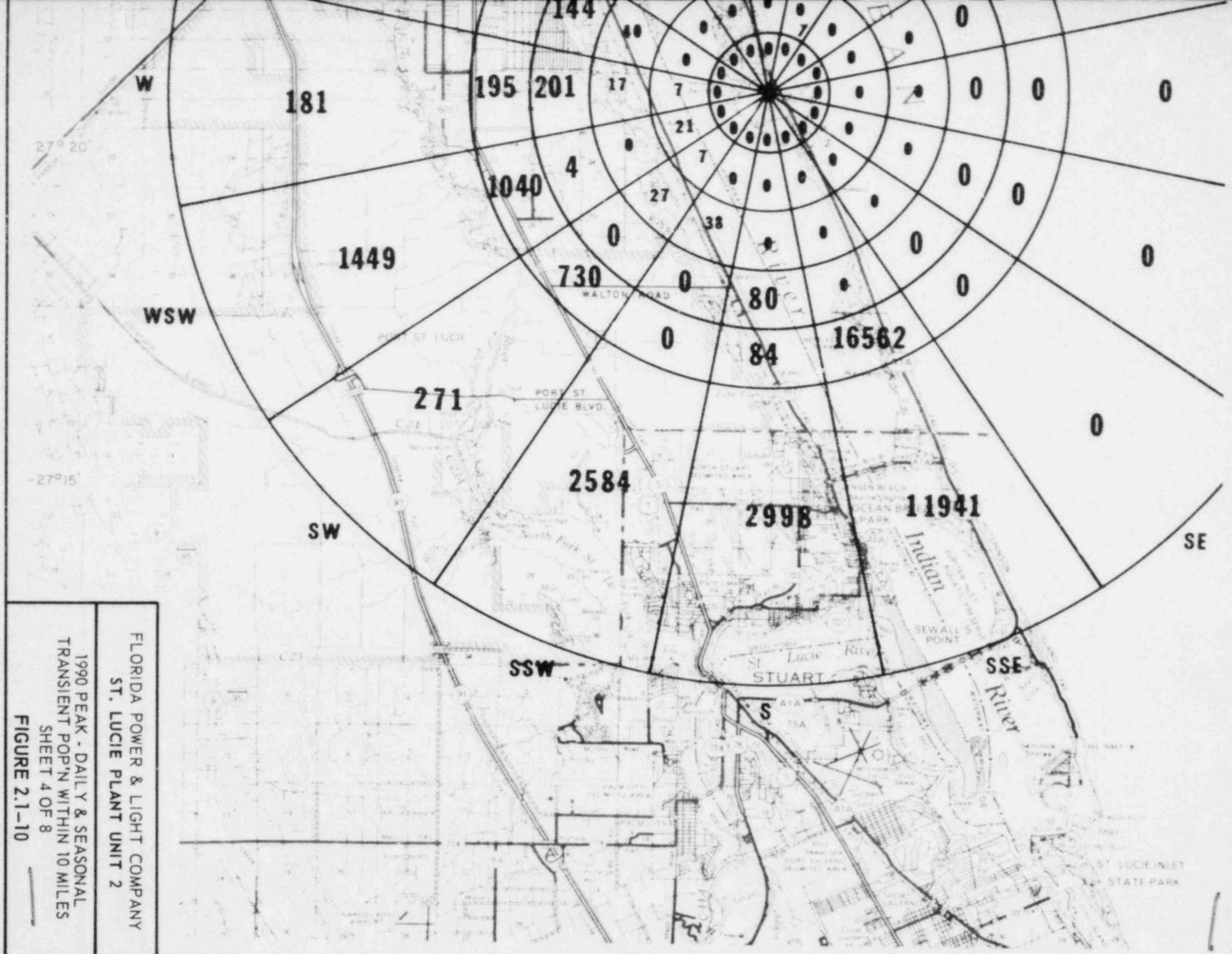
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

1983 PEAK - DAILY & SEASONAL
TRANSIENT POP'N WITHIN 10 MILES
SHEET 3 OF 8

FIGURE 2.1-10



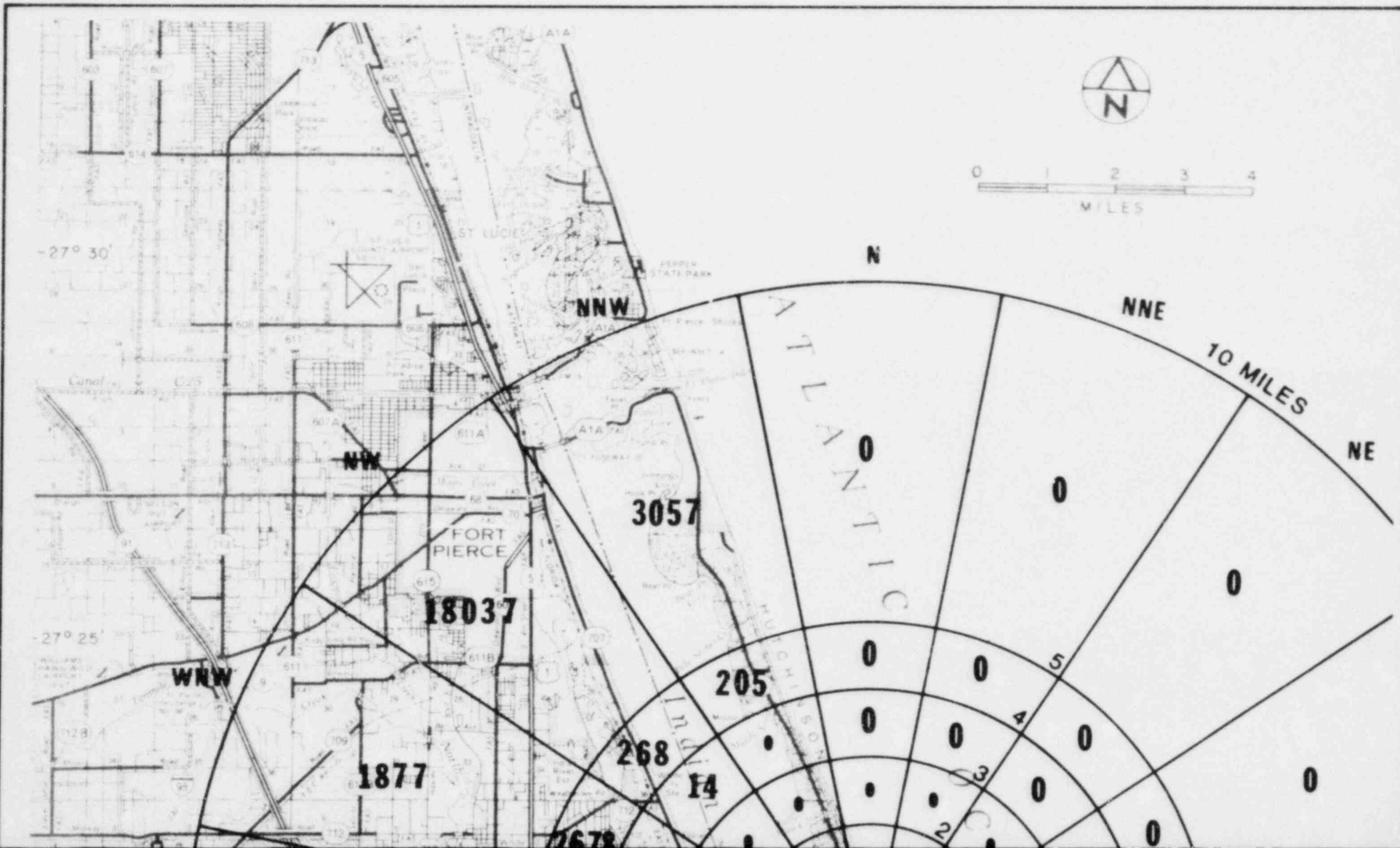
N
MILES
0
1
2
3
4
ST LUCIE
PEPPER STATE PARK
27° 30'
27° 25'
FORT PIERCE
ATLANTIC
Indian
HUTCHINSON
N
NNE
NE
NNW
NW
WNW
10 MILES
5
4
3
2
2484
14654
1526
167
217
11
2176
0



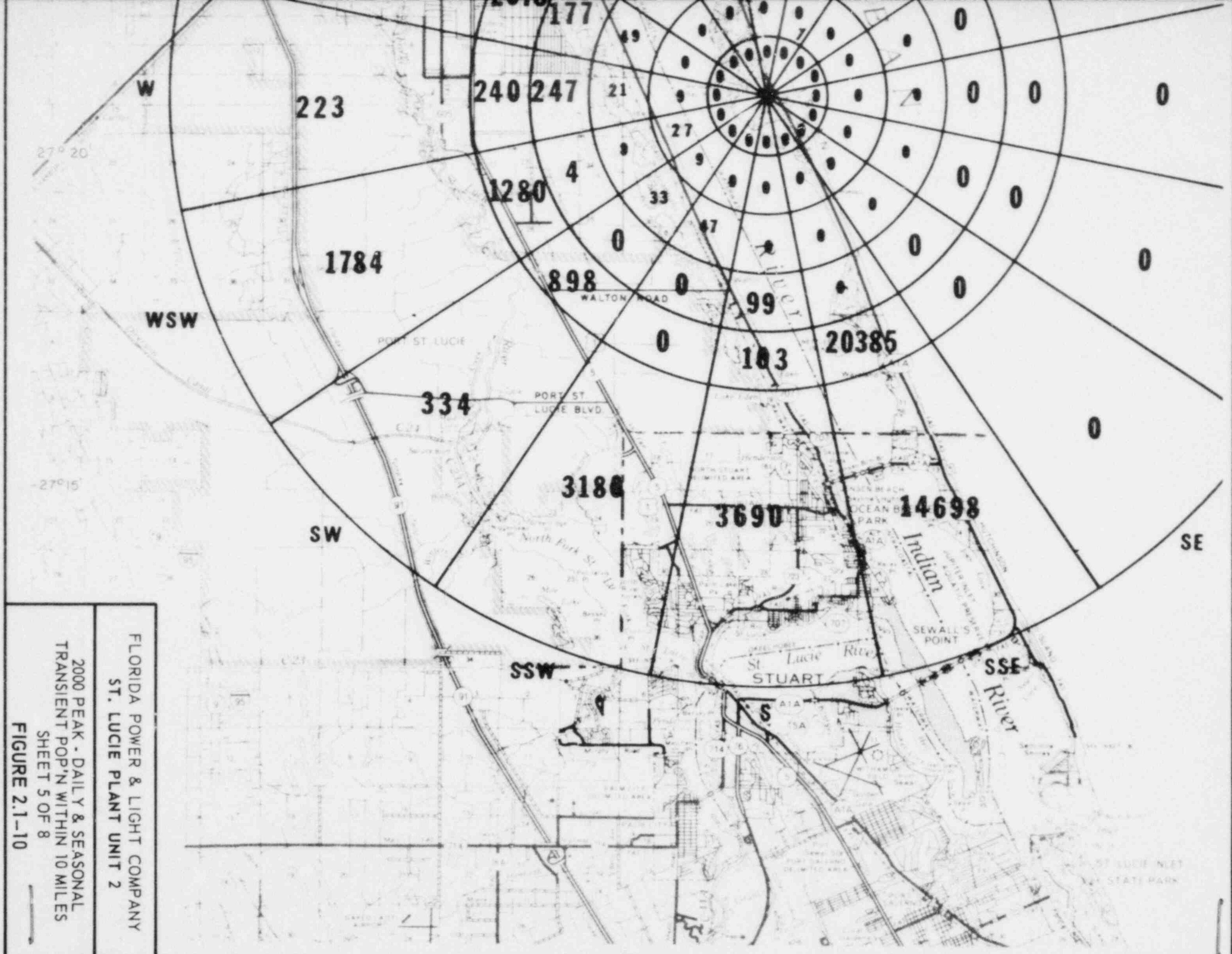
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

1990 PEAK - DAILY & SEASONAL TRANSIENT POP'N WITHIN 10 MILES
SHEET 4 OF 8

FIGURE 2.1-10



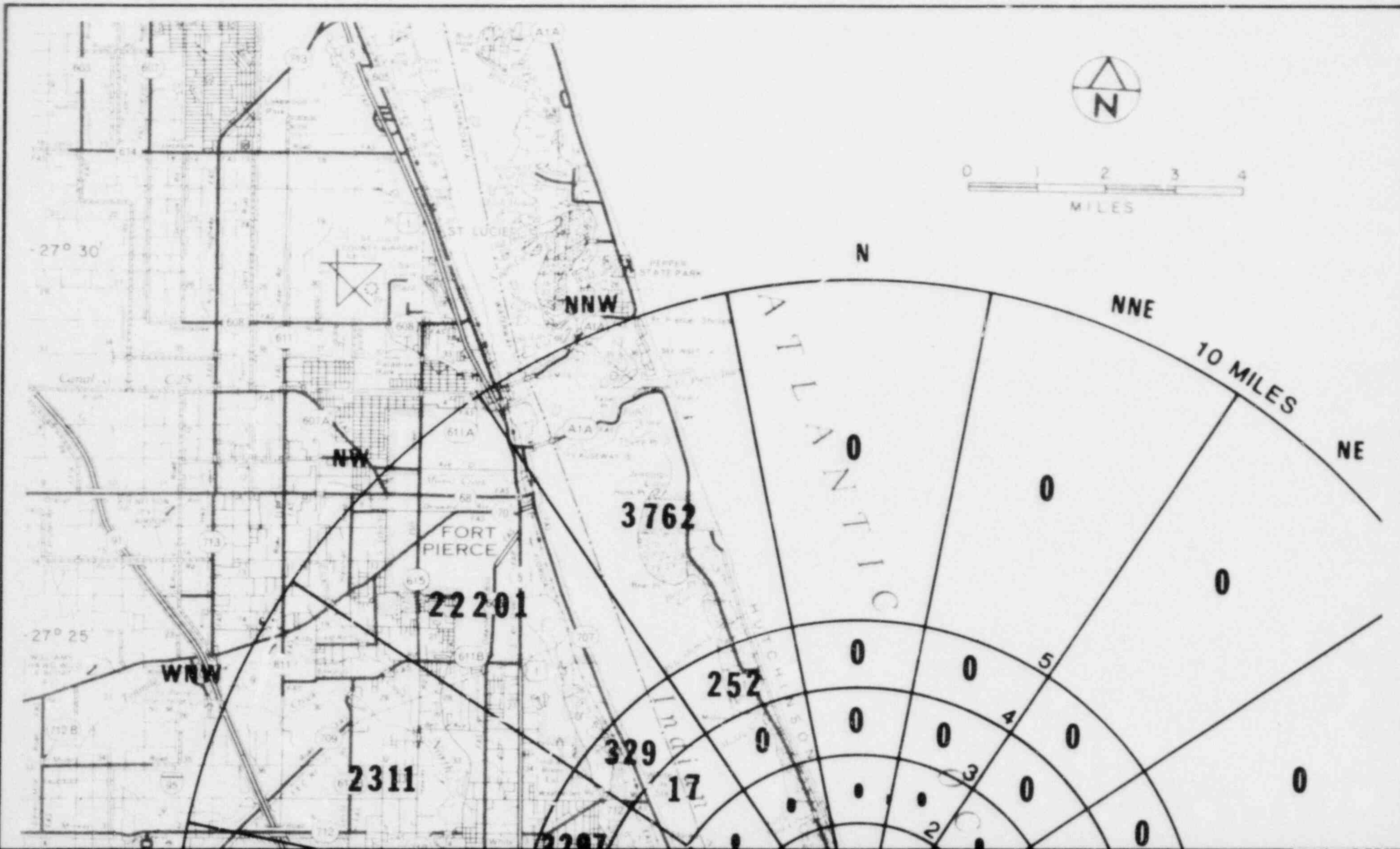
N
0 1 2 3 4
MILES
-27° 30'
-27° 25'
ST LUCIE
FORT PIERCE
ATLANTIC
N
NNE
10 MILES
NE
NNW
NW
WNW
3057
18037
1877
205
268
14
0
5
4
3
2



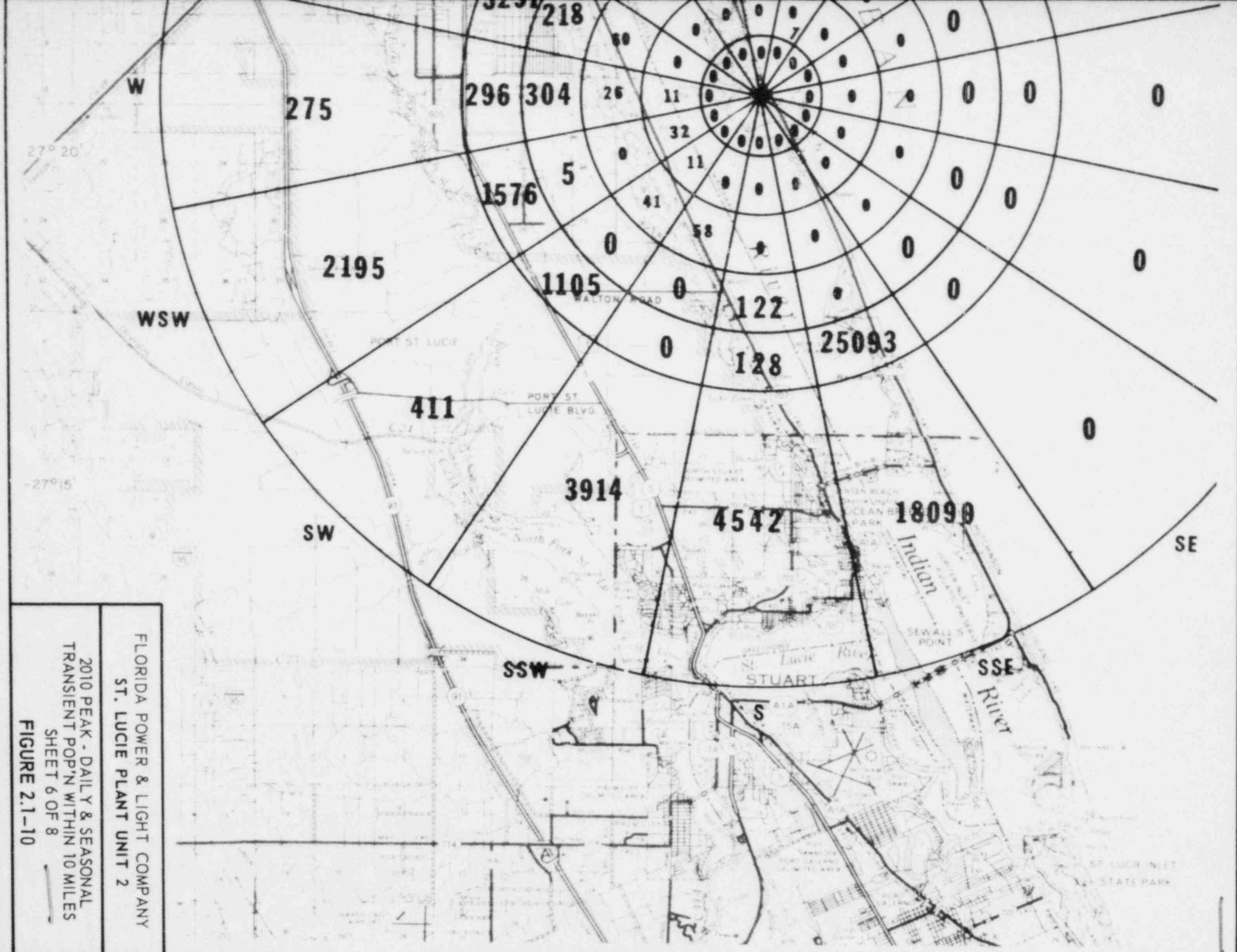
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2000 PEAK - DAILY & SEASONAL TRANSIENT POP'N WITHIN 10 MILES
SHEET 5 OF 8

FIGURE 2.1-10



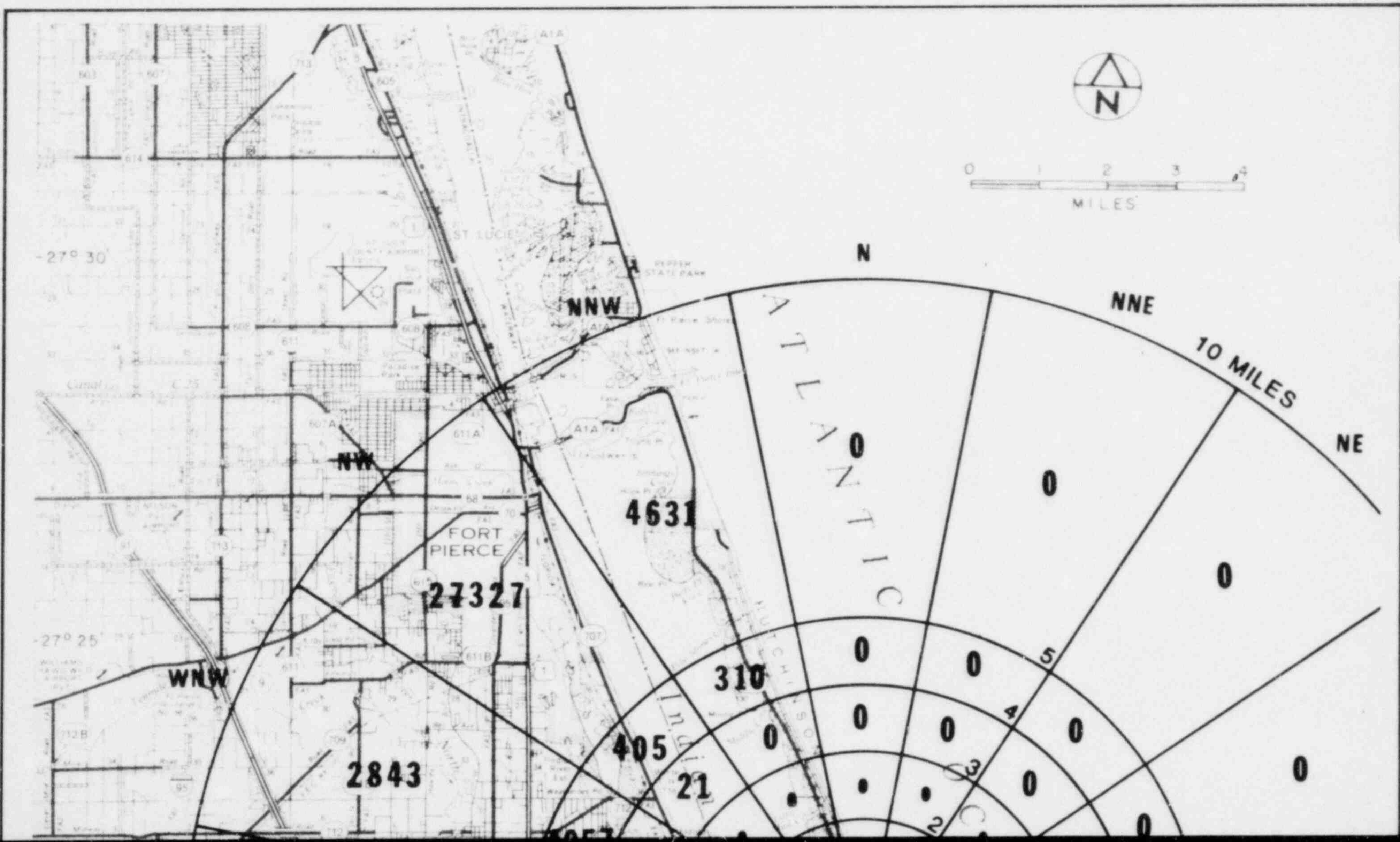
N
0 1 2 3 4
MILES
-27° 30'
-27° 25'
ST LUCIE
PEPPER STATE PARK
FORT PIERCE
ATLANTIC
Indian
HUTCHINSON
N
NNE
NE
NNW
NW
WNW
10 MILES
5
4
3
2
0
0
0
0
0
0
0
0
0
0
0
0
0
3762
22201
252
329
17
2311



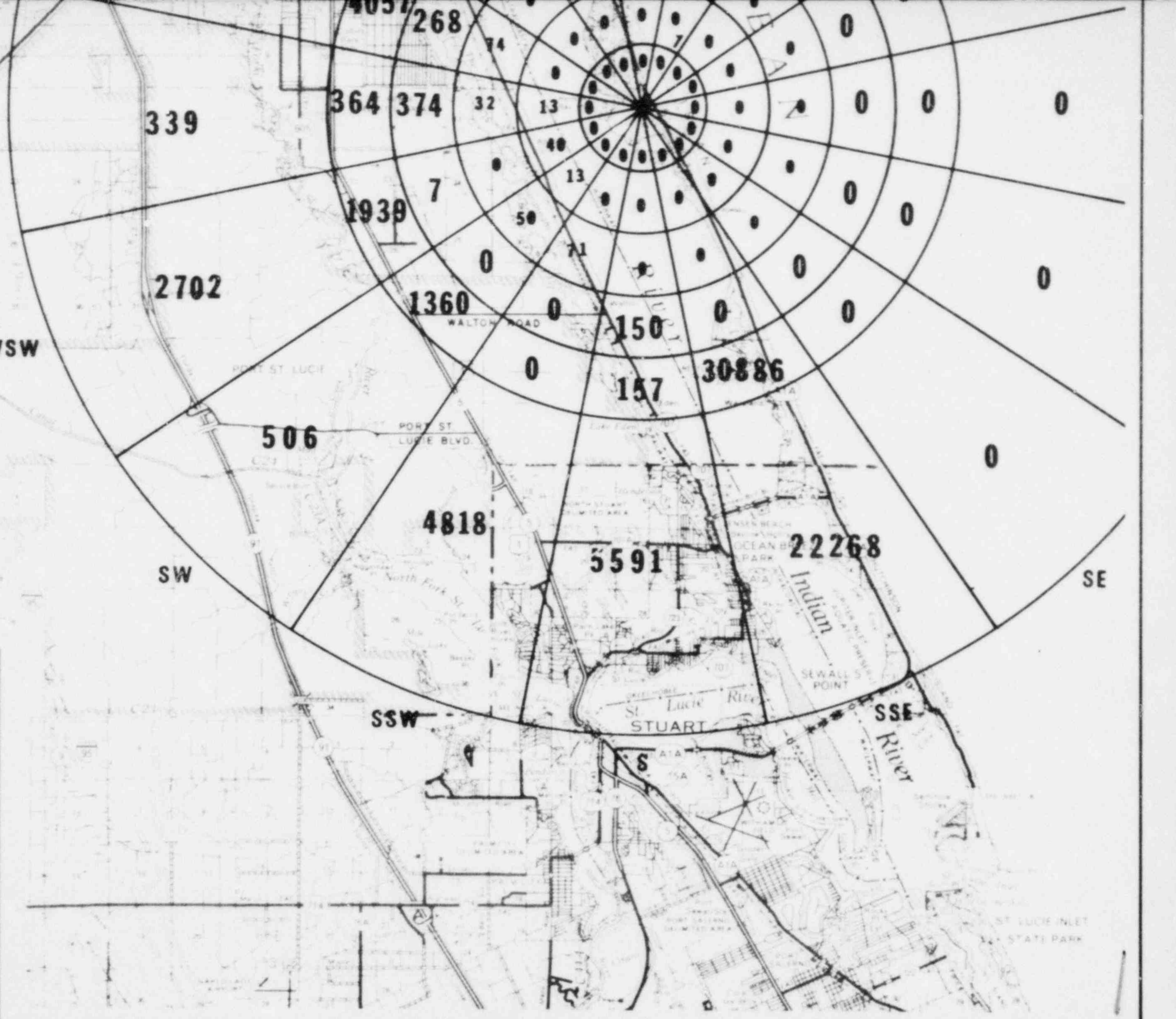
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2010 PEAK - DAILY & SEASONAL TRANSIENT POP'N WITHIN 10 MILES
SHEET 6 OF 8

FIGURE 2.1-10



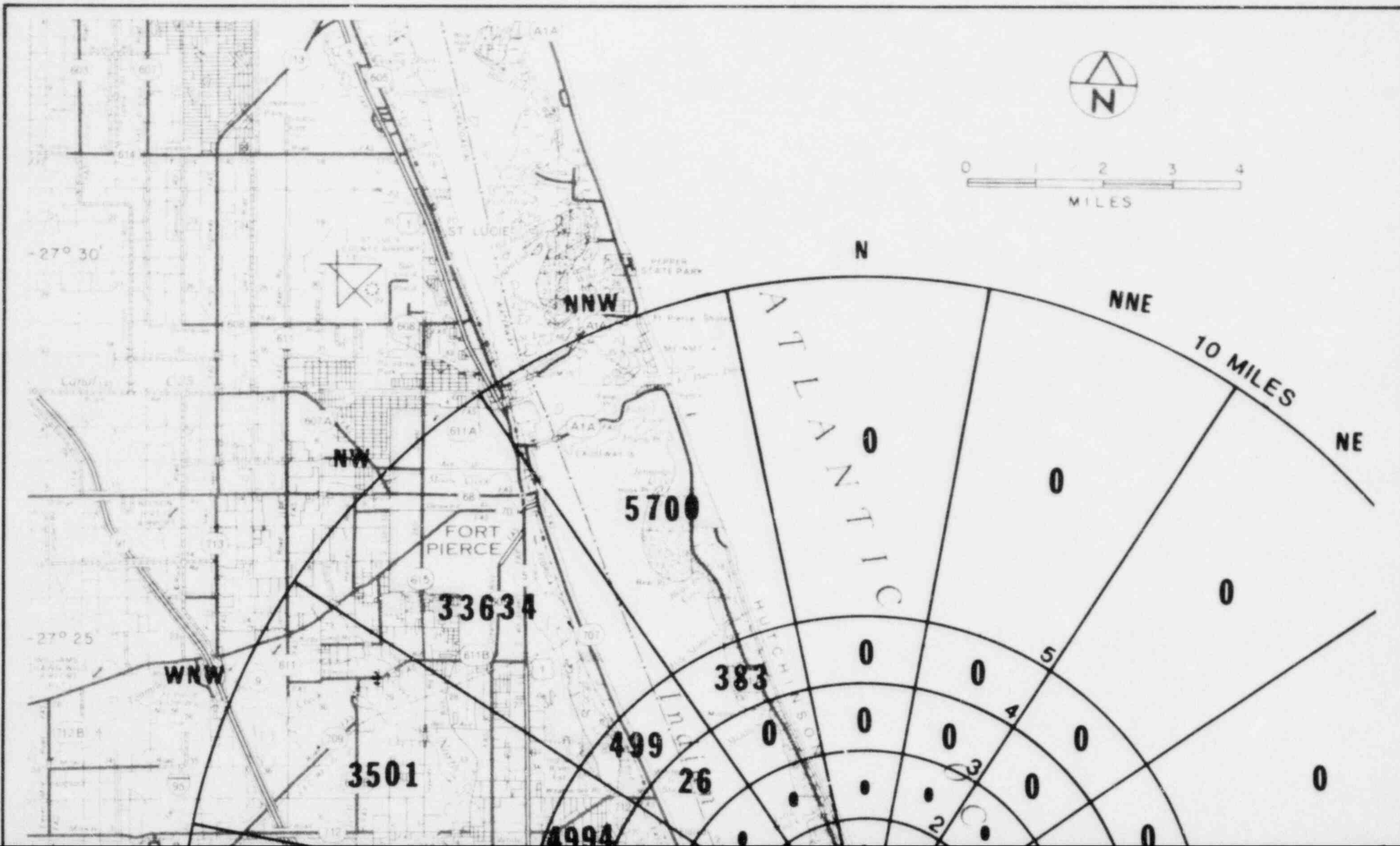
N
NNE
NE
NNW
NW
WNW
10 MILES
ATLANTIC
0 1 2 3 4
MILES
FORT PIERCE
ST. LUCIE
-27° 30'
-27° 25'
4631
27327
310
405
21
2843
0
0
0
0
0
0
0
0
0
0
0
0
0

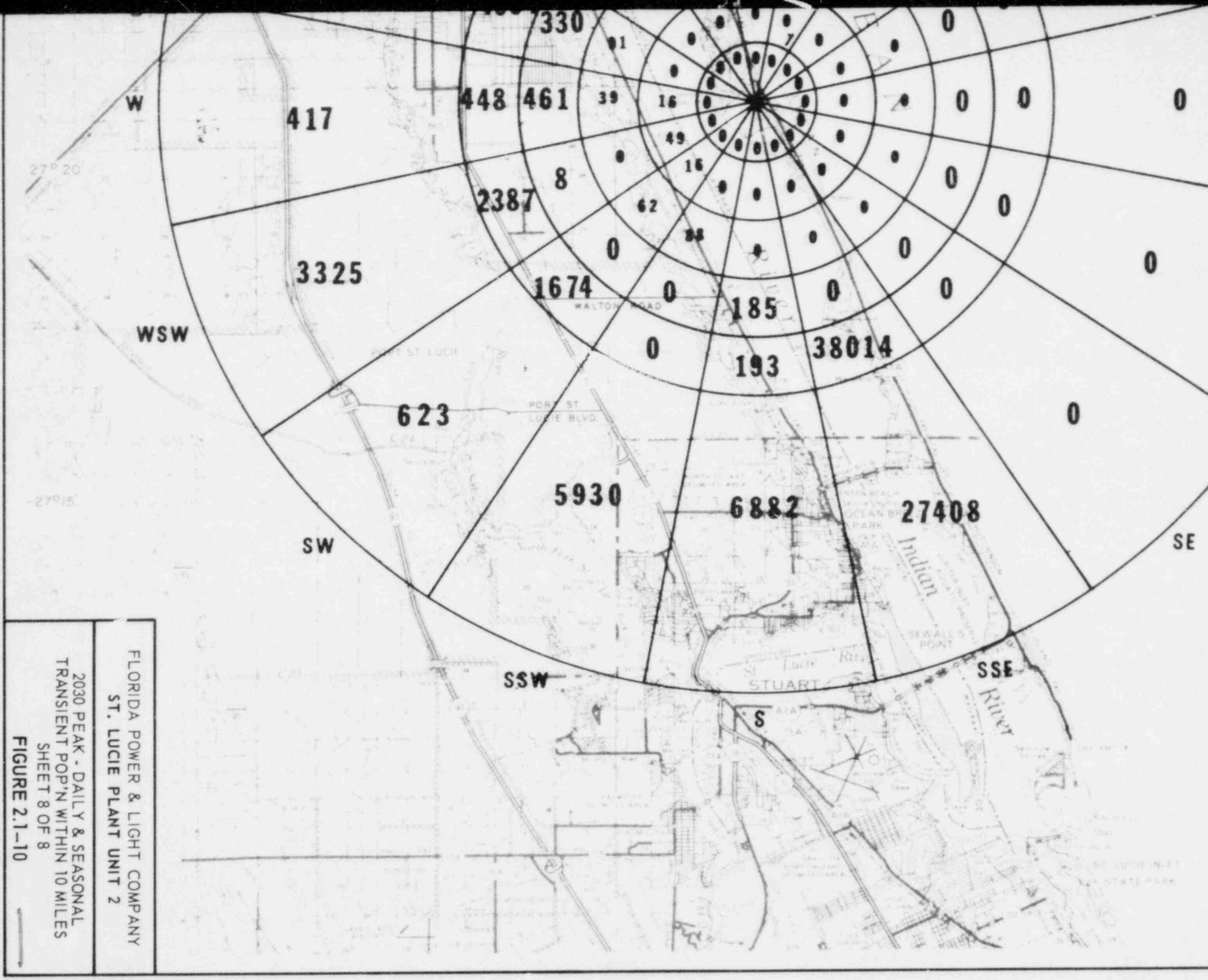


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2020 PEAK - DAILY & SEASONAL
TRANSIENT POP'N WITHIN 10 MILES
SHEET 7 OF 8

FIGURE 2.1-10

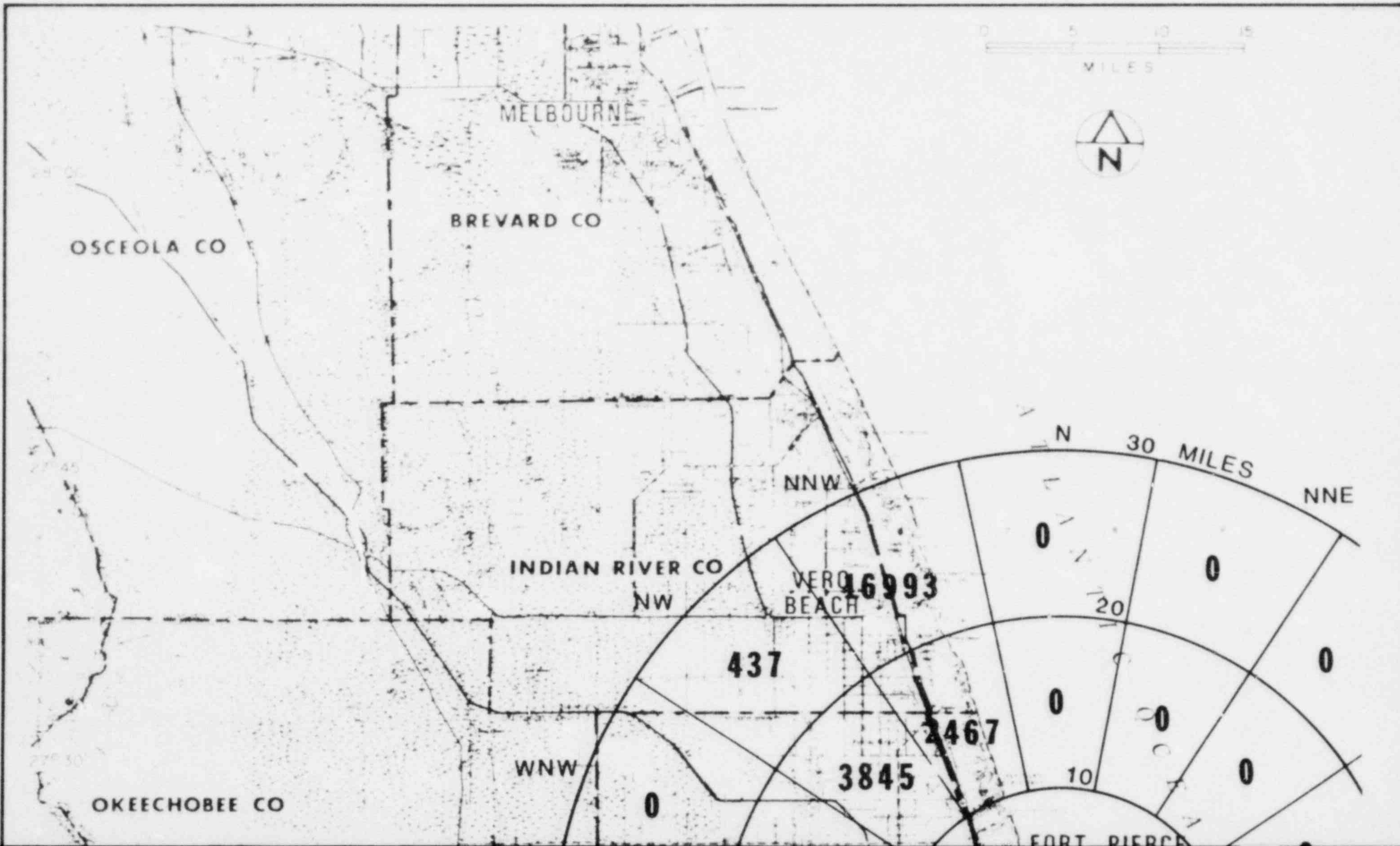

N
0 1 2 3 4
MILES
N
NNE
10 MILES
NE
NNW
NW
WNW
ST LUCIE
FORT
PIERCE
-27° 30'
-27° 25'
ATLANTIC
5700
33634
383
499
26
3501
4994
0
5
4
3
2



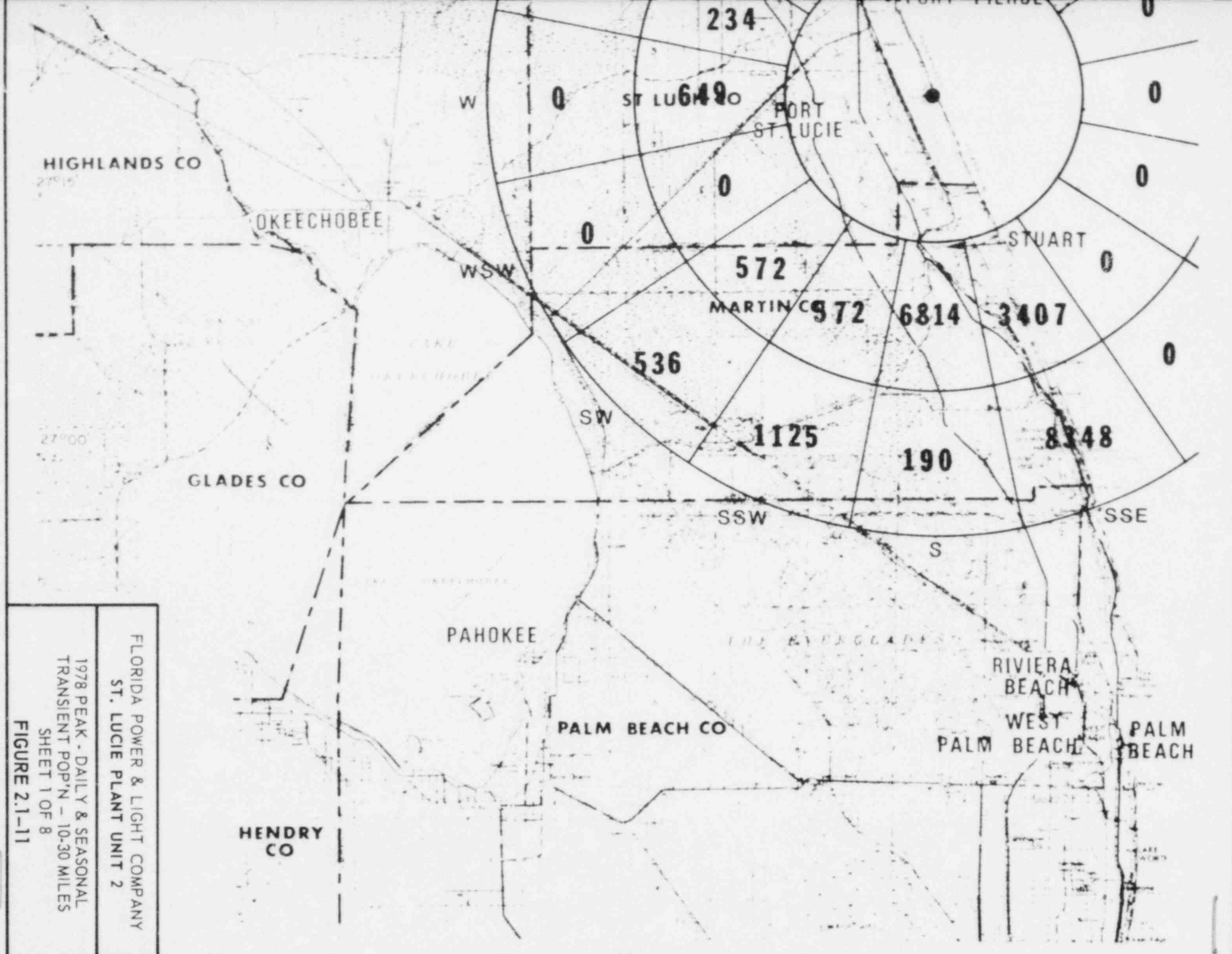
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2030 PEAK - DAILY & SEASONAL TRANSIENT POP'N WITHIN 10 MILES
SHEET 8 OF 8

FIGURE 2.1-10



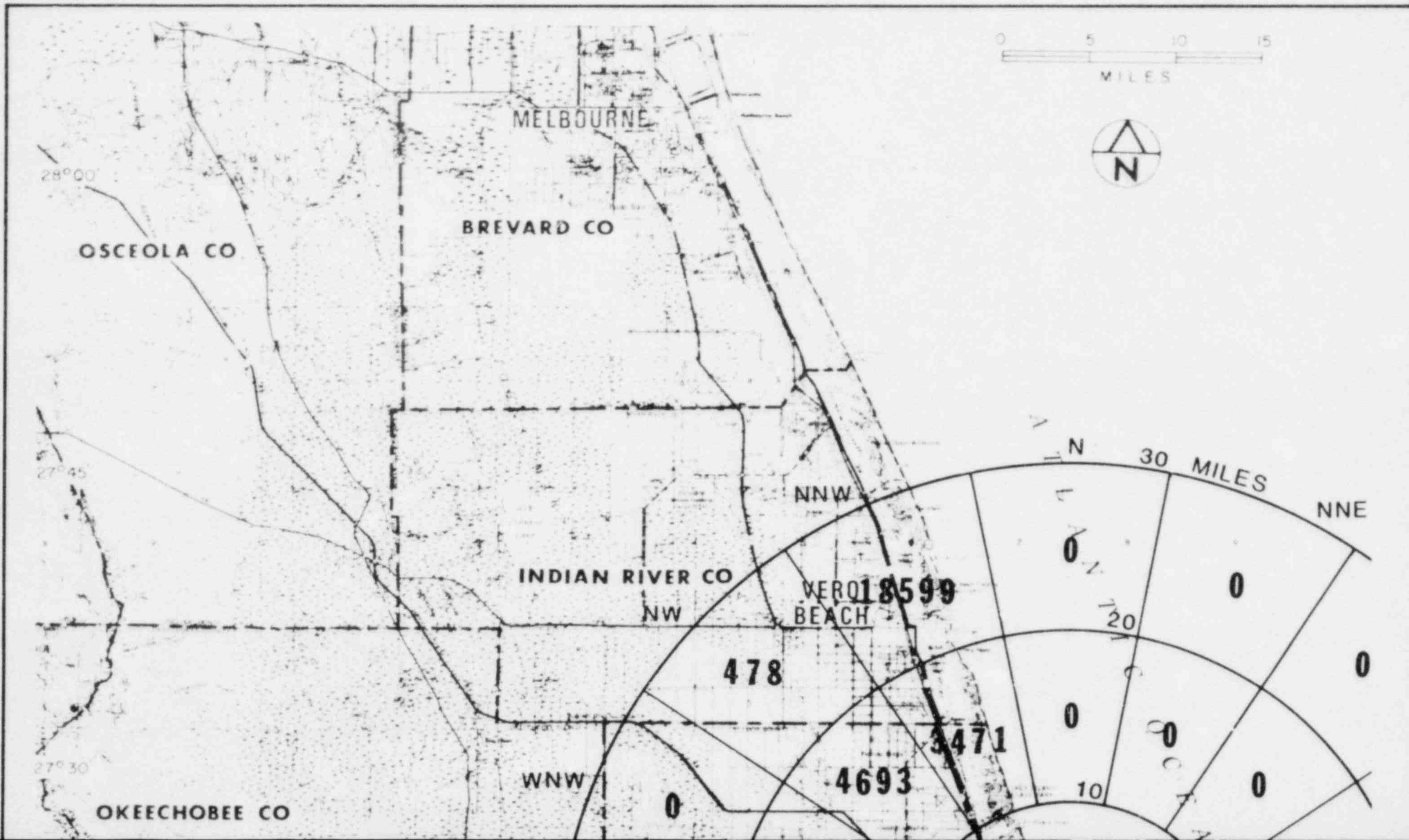
0 5 10 15
MILES
N
MELBOURNE
BREVARD CO
OSCEOLA CO
INDIAN RIVER CO
OKEECHOBEE CO
VERO BEACH
N
30 MILES
NNE
NNW
NW
WNW
20
10
0
0
16993
0
437
0
0
2467
3845
0
0
0
FORT PIERCE



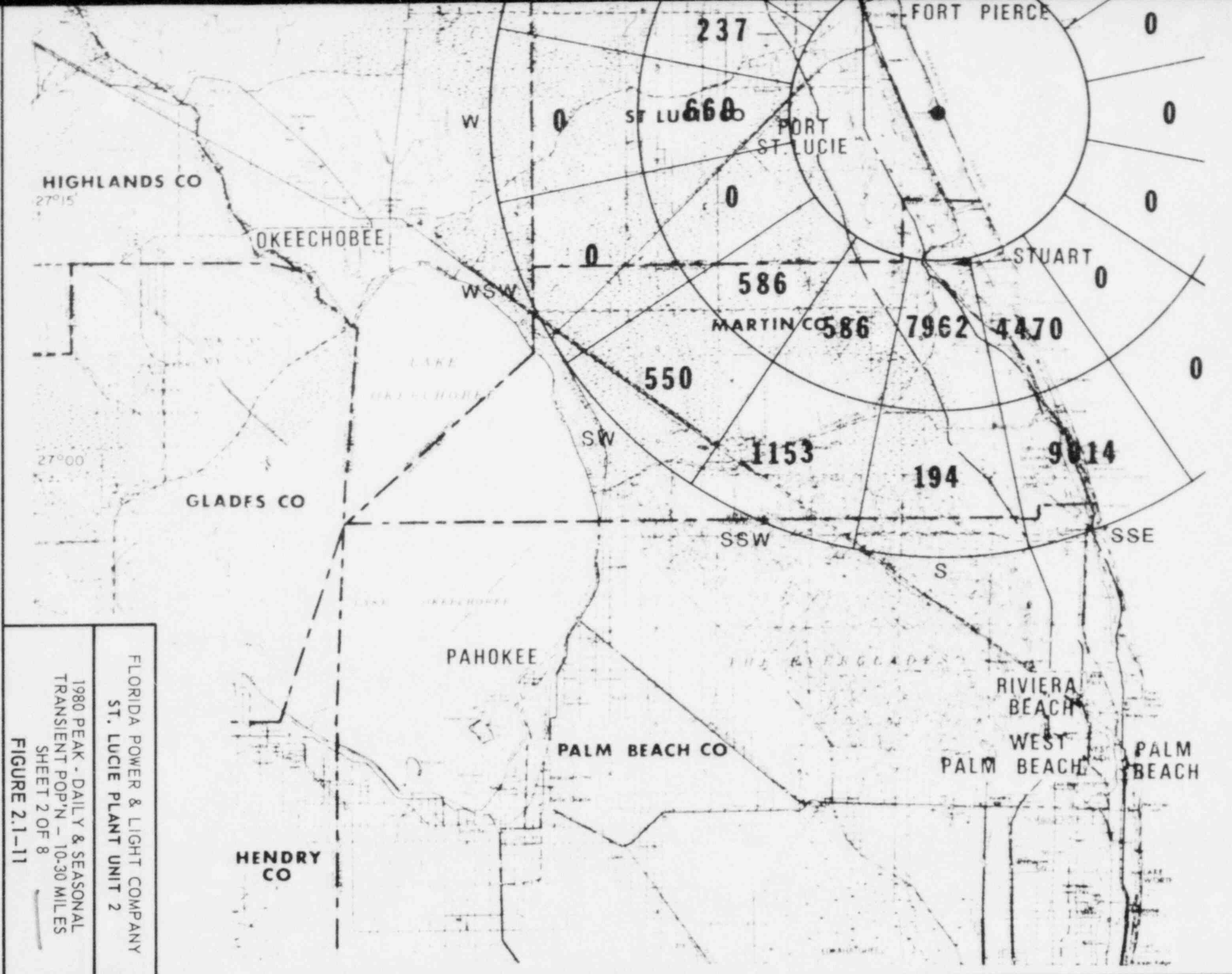
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

1978 PEAK - DAILY & SEASONAL
TRANSIENT POP'N – 10-30 MILES
SHEET 1 OF 8

FIGURE 2.1-11



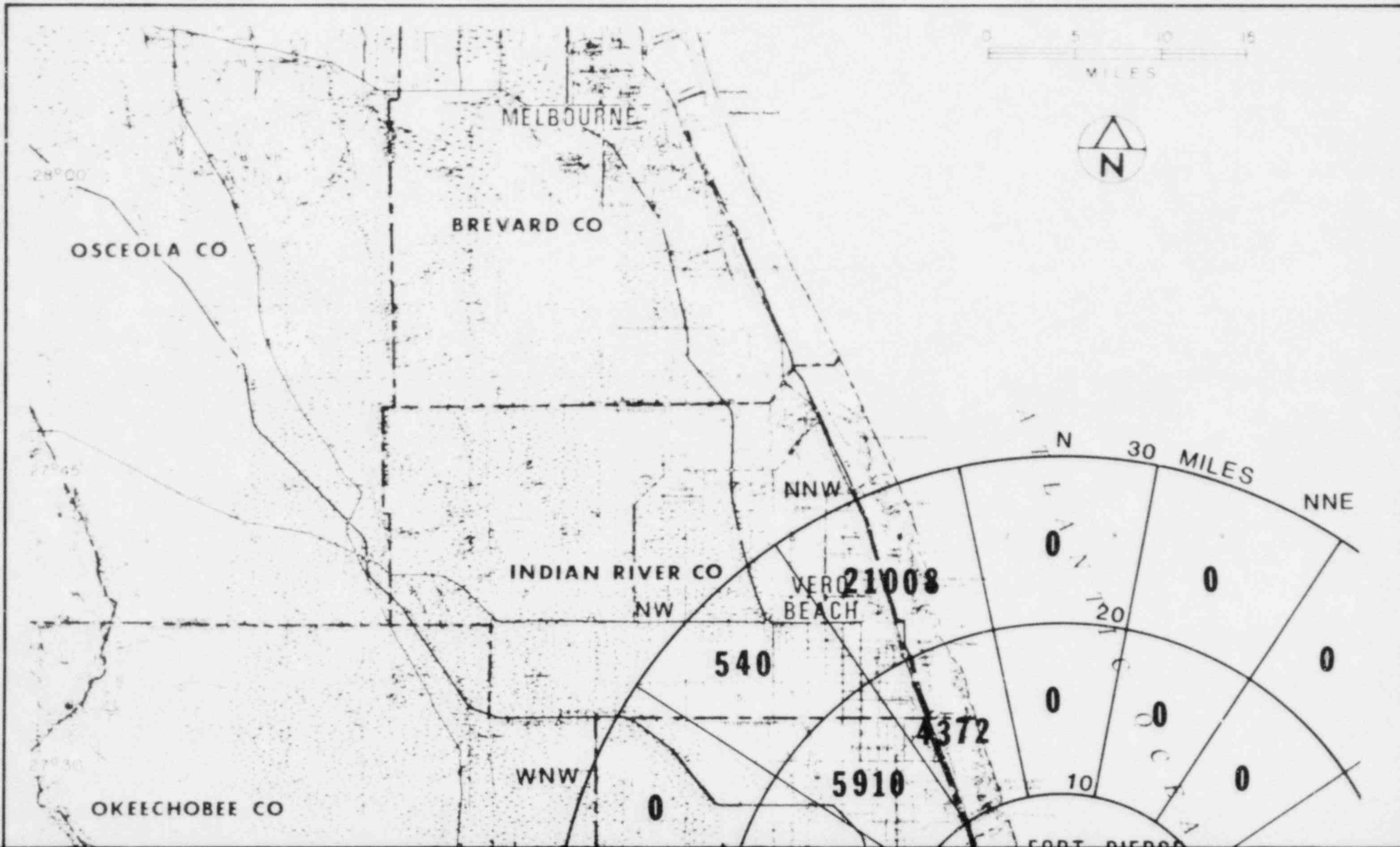
0 5 10 15
MILES
N
MELBOURNE
BREVARD CO
OSCEOLA CO
28°00'
27°45'
27°30'
INDIAN RIVER CO
OKEECHOBEE CO
VERO BEACH
N
30 MILES
NNE
NNW
NW
WNW
20
10
0
18599
478
3471
4693



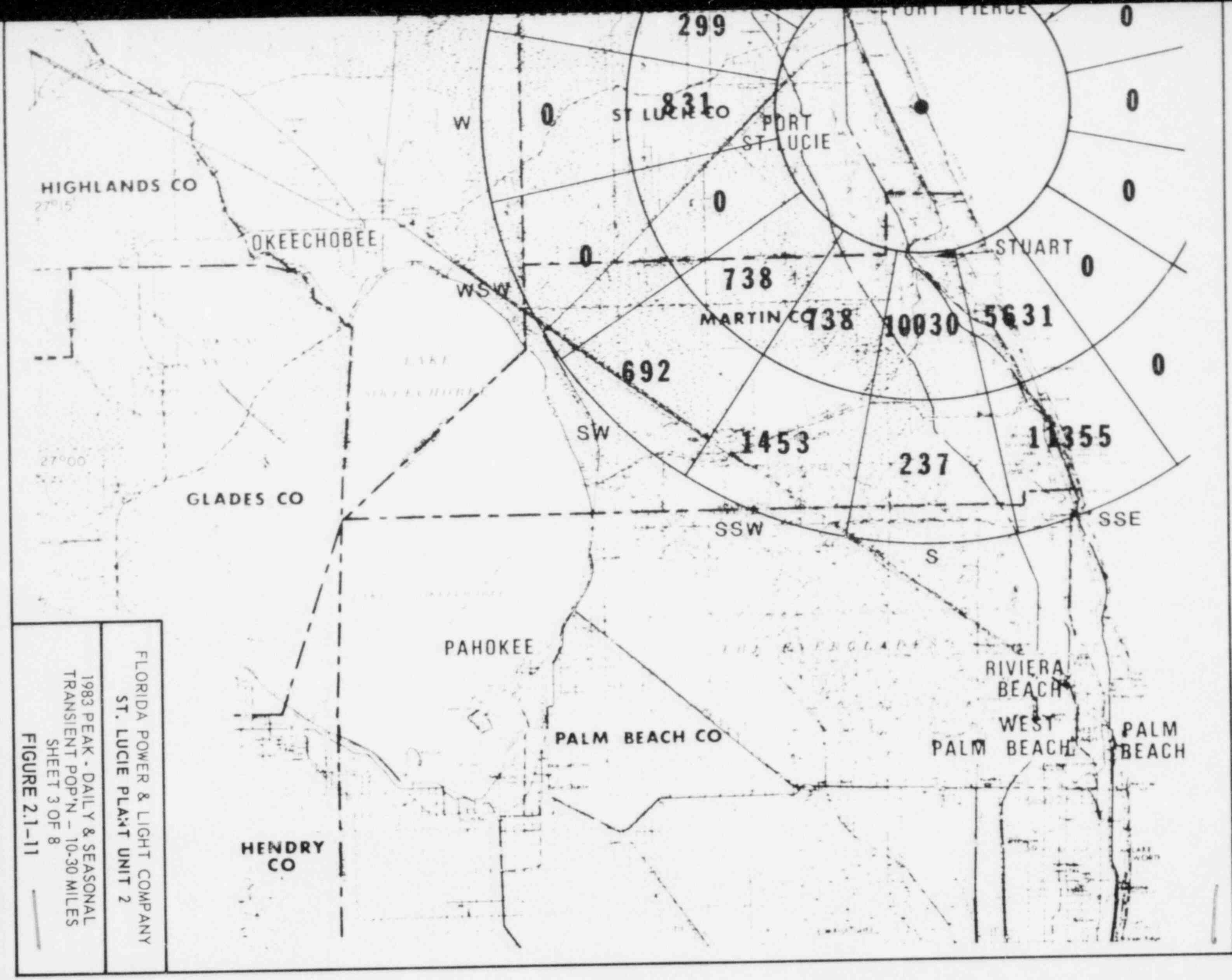
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

1980 PEAK - DAILY & SEASONAL
TRANSIENT POP'N – 10-30 MILES
SHEET 2 OF 8

FIGURE 2.1-11



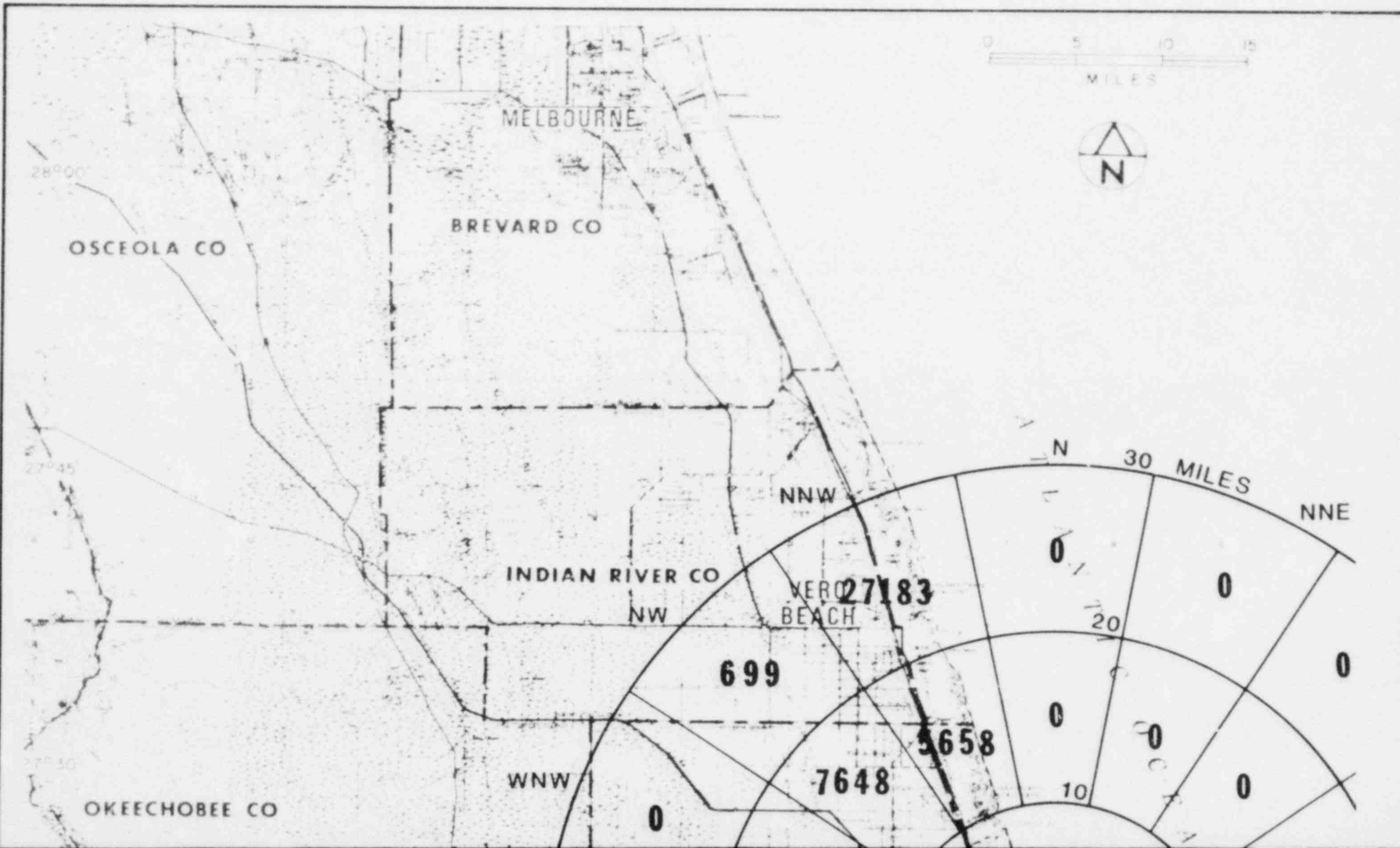
0 5 10 15
MILES
N
MELBOURNE
BREVARD CO
OSCEOLA CO
INDIAN RIVER CO
OKEECHOBEE CO
VERO BEACH
N
30 MILES
NNE
NNW
NW
WNW
20
10
0
21008
540
4372
5910

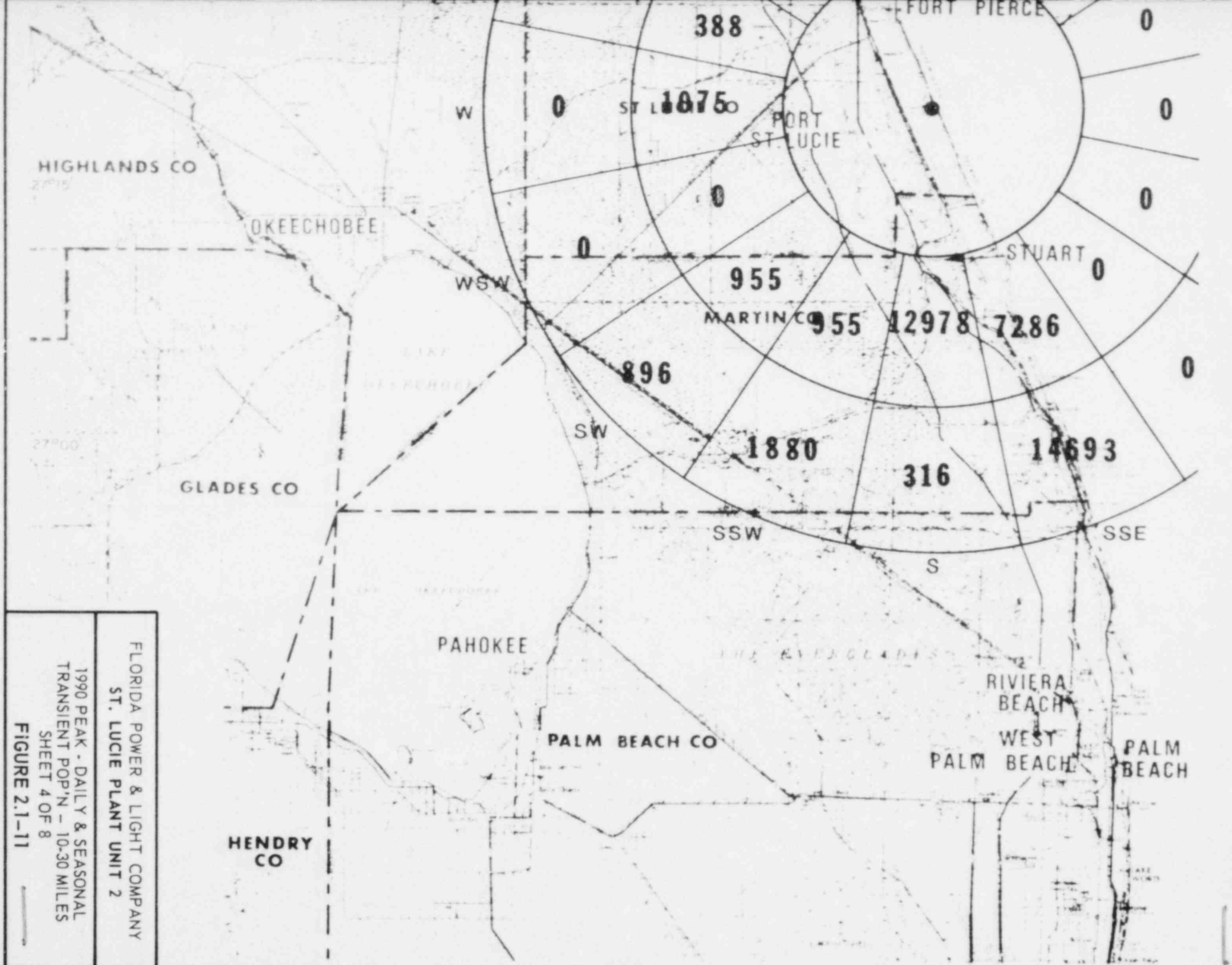


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

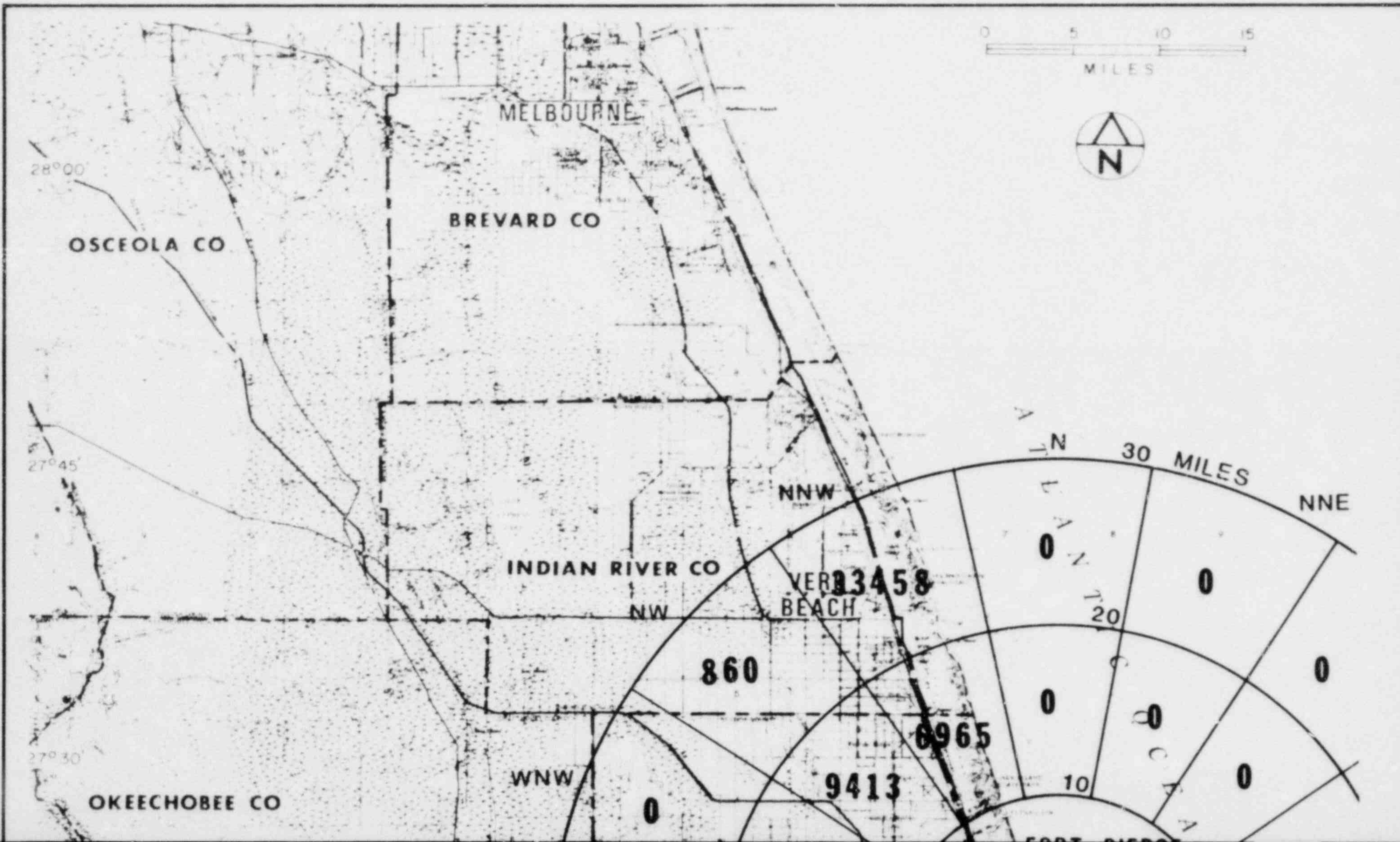
1983 PEAK - DAILY & SEASONAL
TRANSIENT POP'N – 10-30 MILES
SHEET 3 OF 8

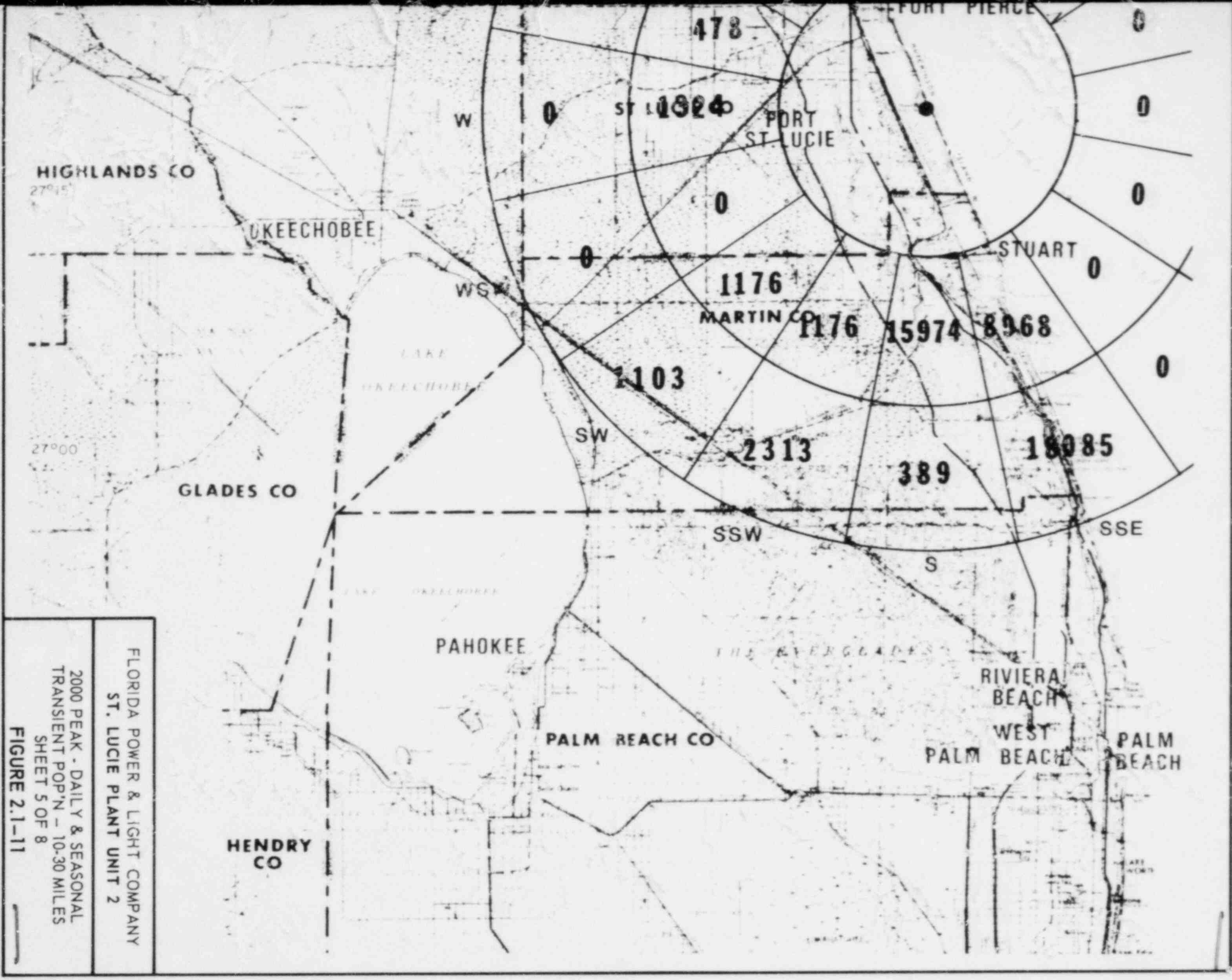
FIGURE 2.1-11


0 5 10 15
MILES
N
MELBOURNE
BREVARD CO
OSCEOLA CO
28°00'
27°45'
27°30'
INDIAN RIVER CO
VERO BEACH
OKEECHOBEE CO
N
30 MILES
NNE
NNW
NW
WNW
20
10
27183
699
5658
7648
0
0
0
0
0
0
0
0

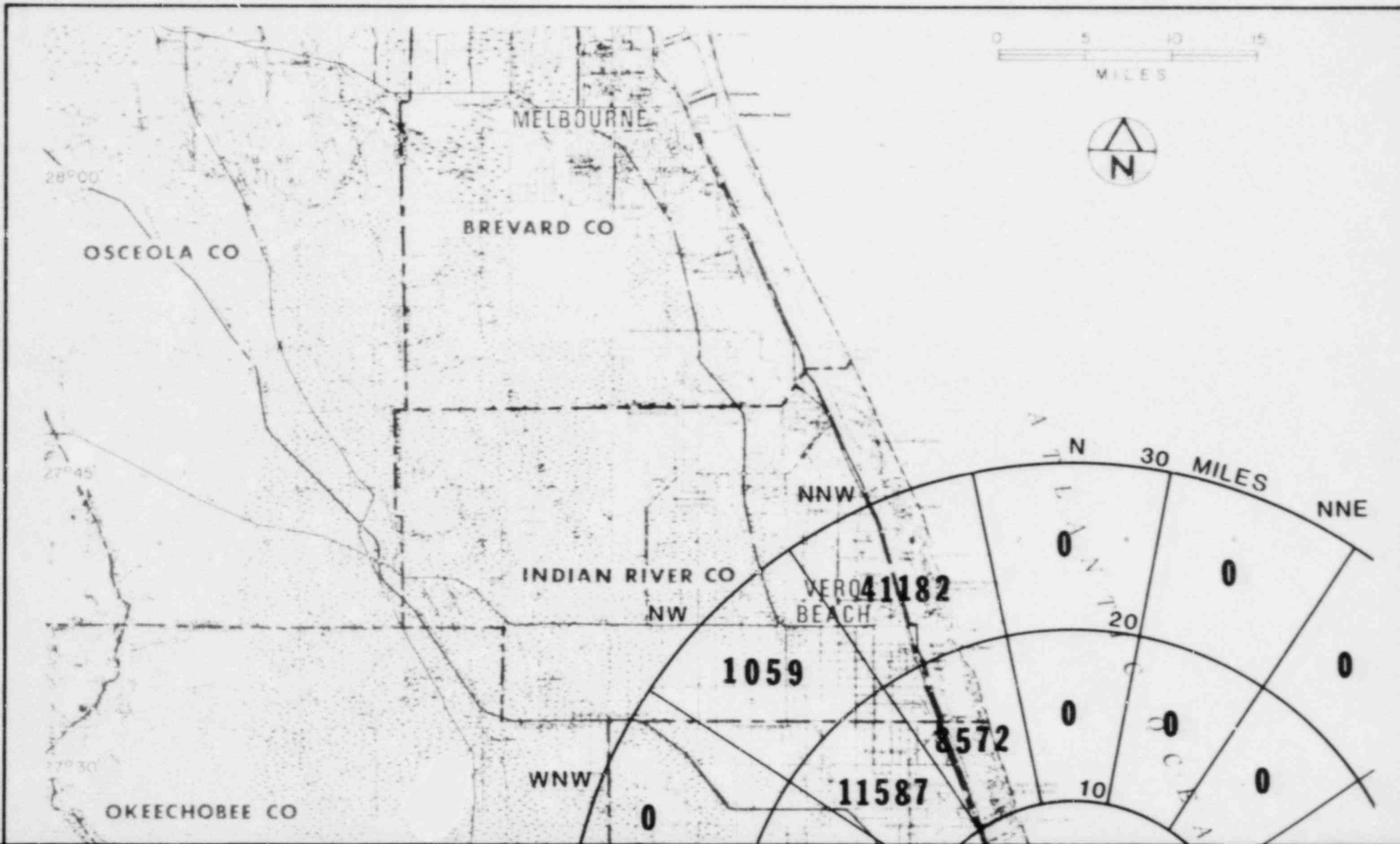


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
1990 PEAK - DAILY & SEASONAL TRANSIENT POP'N – 10-30 MILES
SHEET 4 OF 8
FIGURE 2.1-11

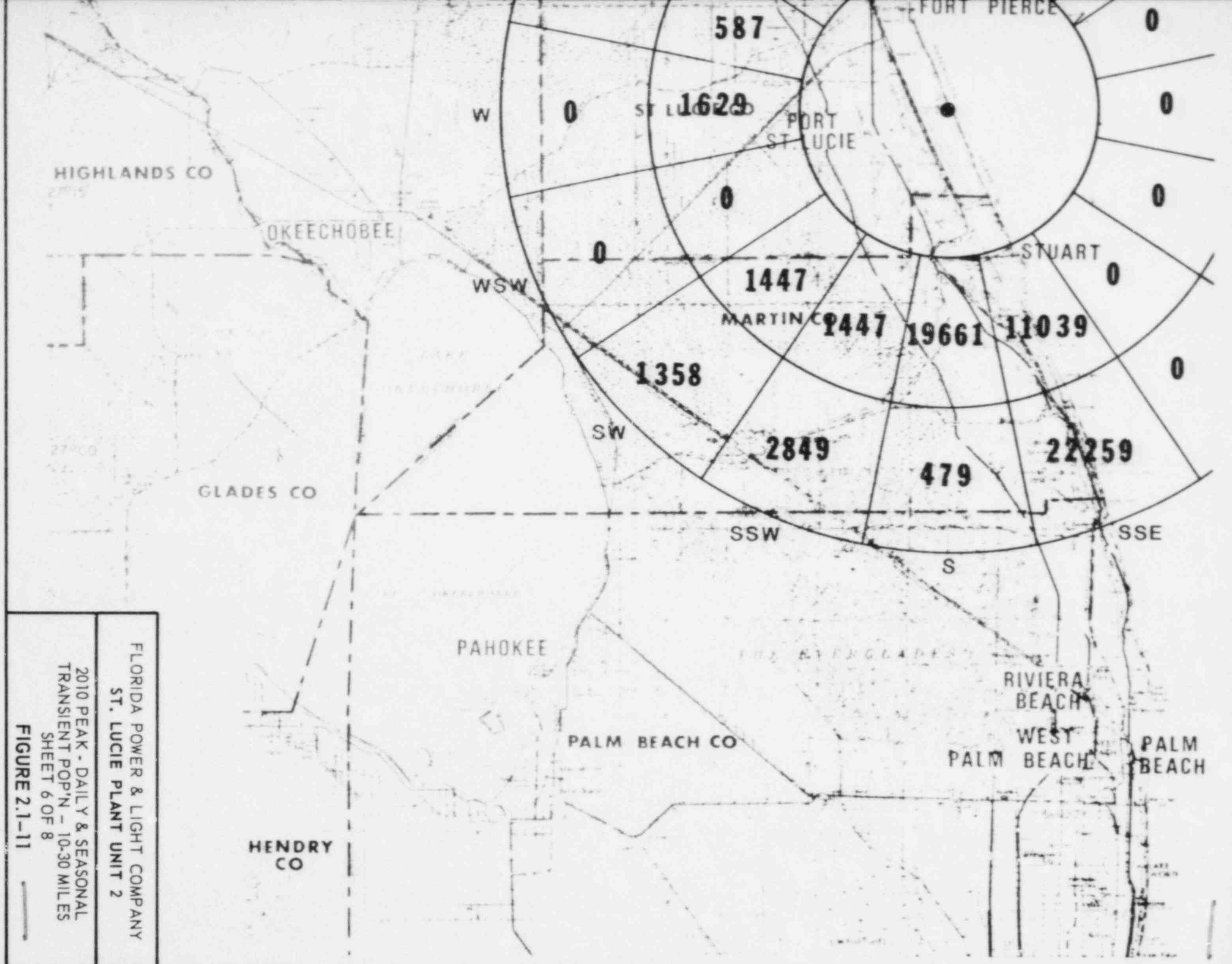

0 5 10 15
MILES
N
MELBOURNE
BREVARD CO
OSCEOLA CO
28°00'
27°45'
27°30'
INDIAN RIVER CO
OKEECHOBEE CO
NNW
NW
WNW
N
NNE
30 MILES
20
10
VERO BEACH
13458
860
6965
9413
0
0
0
0
0
0
0
0



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
2000 PEAK - DAILY & SEASONAL
TRANSIENT POP'N – 10-30 MILES
SHEET 5 OF 8
FIGURE 2.1-11



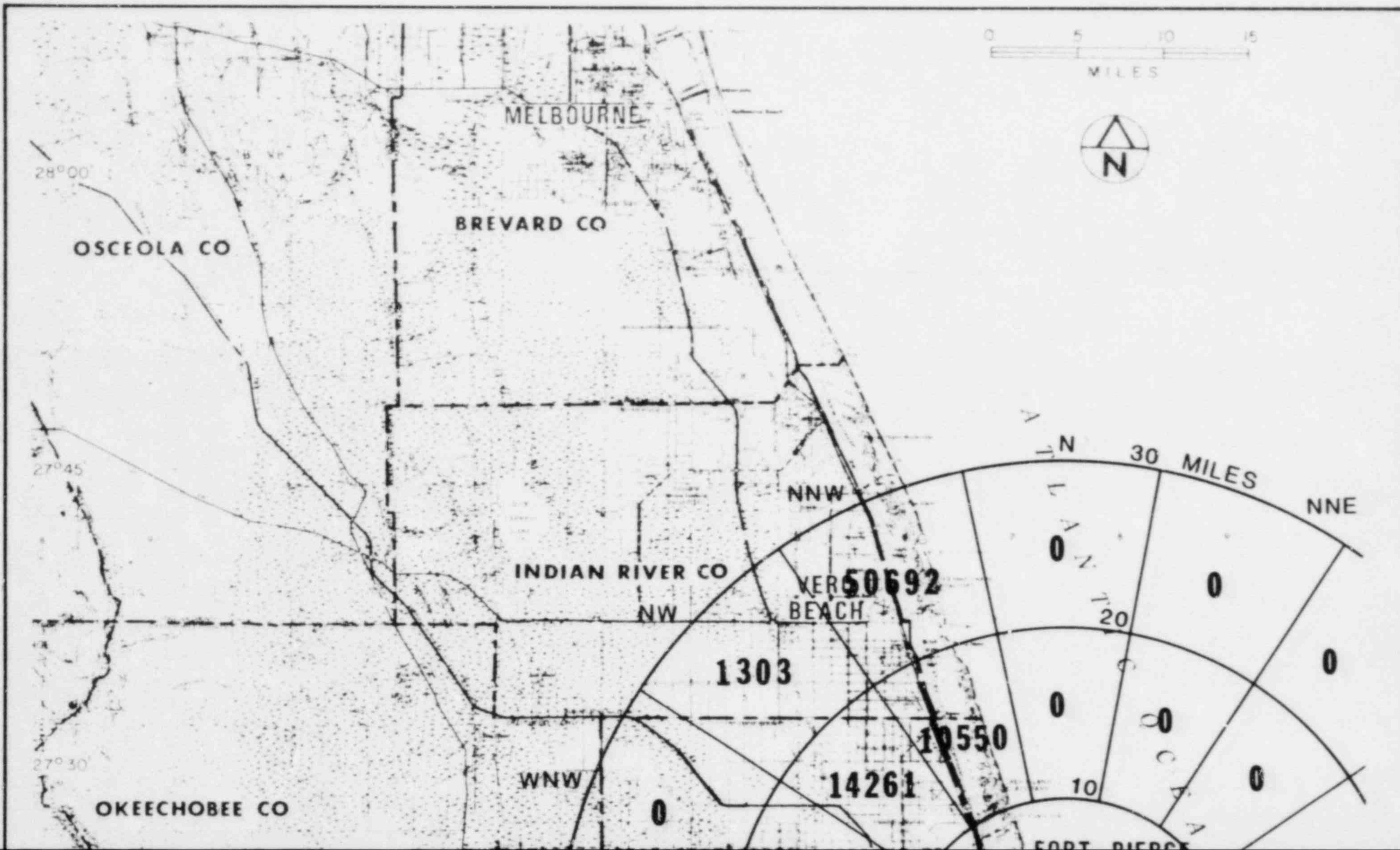
0 5 10 15
MILES
N
MELBOURNE
BREVARD CO
OSCEOLA CO
28°00'
27°45'
27°30'
INDIAN RIVER CO
VERO BEACH
OKEECHOBEE CO
N
30 MILES
NNE
NNW
NW
WNW
20
10
0
0
0
41182
1059
0
0
0
8572
11587
0
0



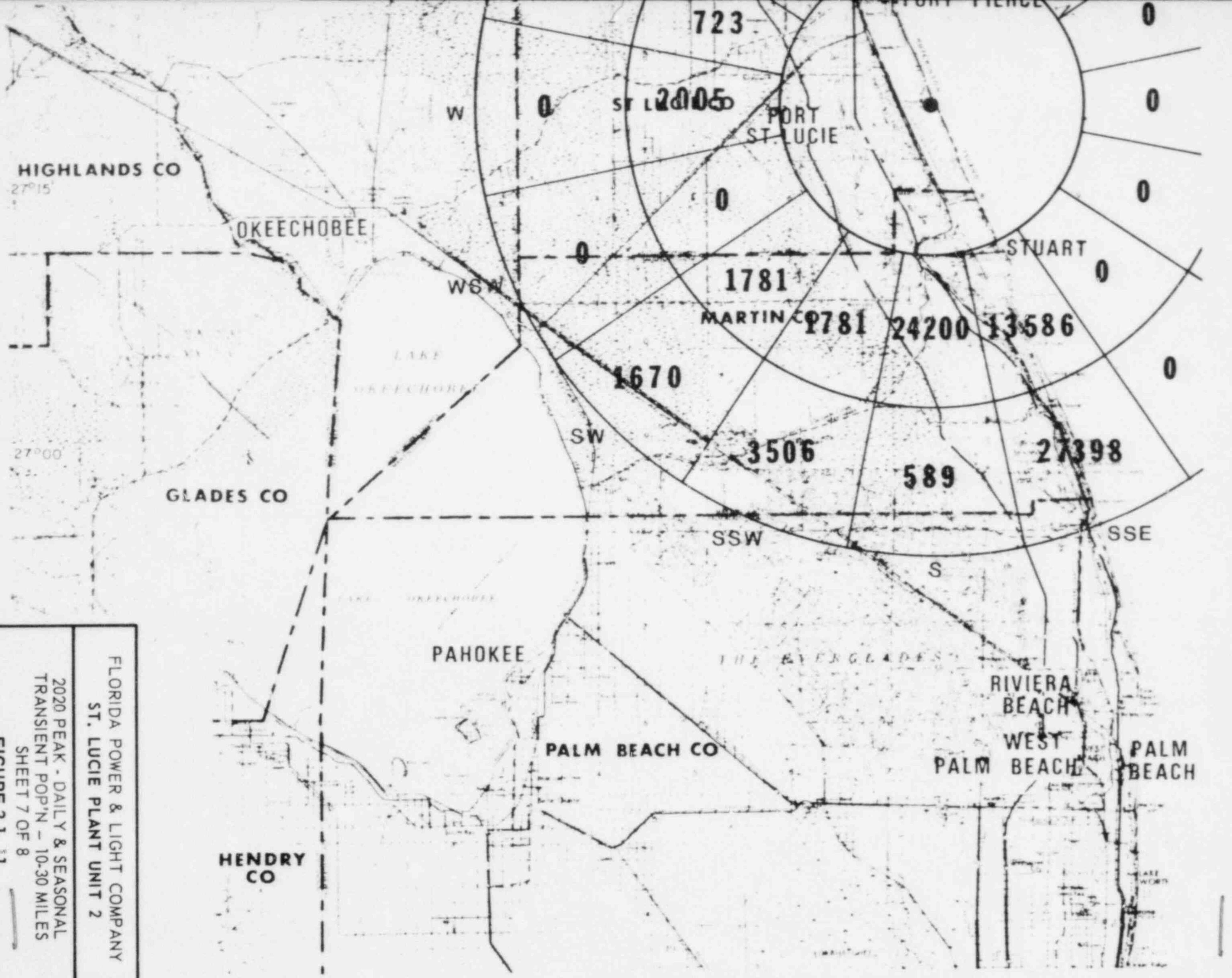
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2010 PEAK - DAILY & SEASONAL
TRANSIENT POP'N – 10-30 MILES
SHEET 6 OF 8

FIGURE 2.1-11



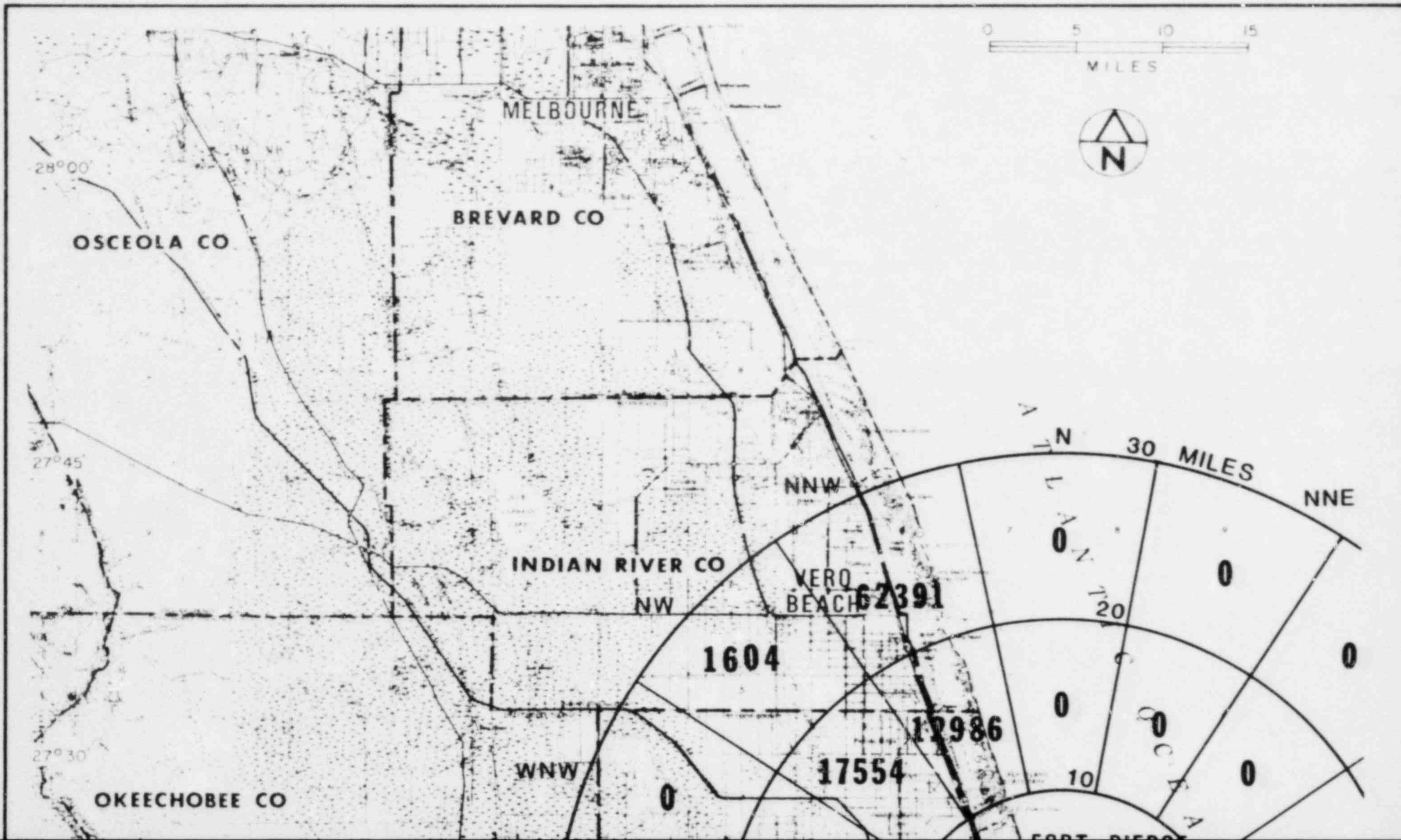
0 5 10 15
MILES
N
MELBOURNE
28°00'
BREVARD CO
OSCEOLA CO
27°45'
N
30 MILES
NNE
NNW
0
0
INDIAN RIVER CO
50692
BEACH
NW
20
0
1303
0
0
0
19550
27°30'
WNW
14261
10
0
OKEECHOBEE CO
0

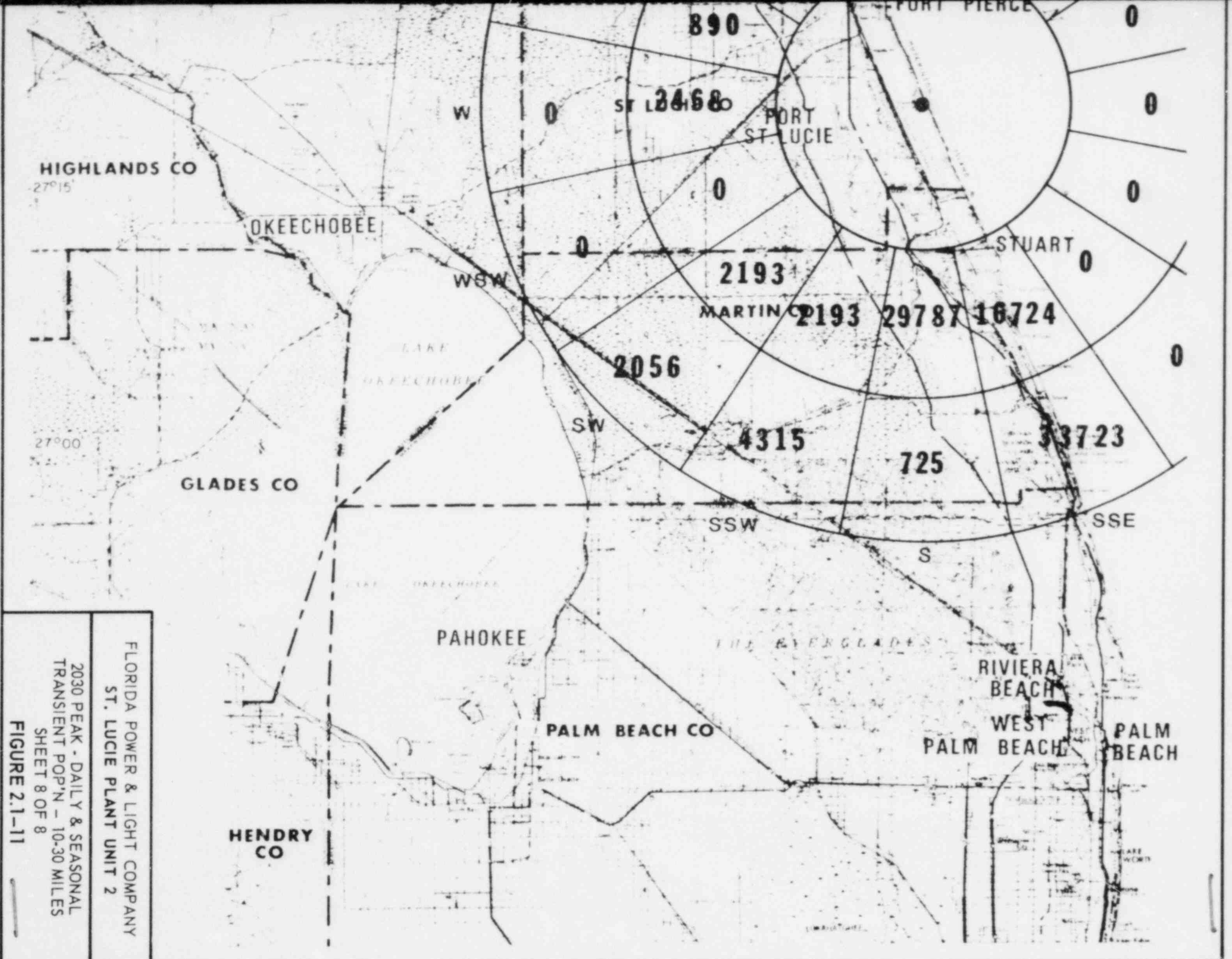


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2020 PEAK - DAILY & SEASONAL
TRANSIENT POP'N – 10-30 MILES
SHEET 7 OF 8

FIGURE 2.1-11

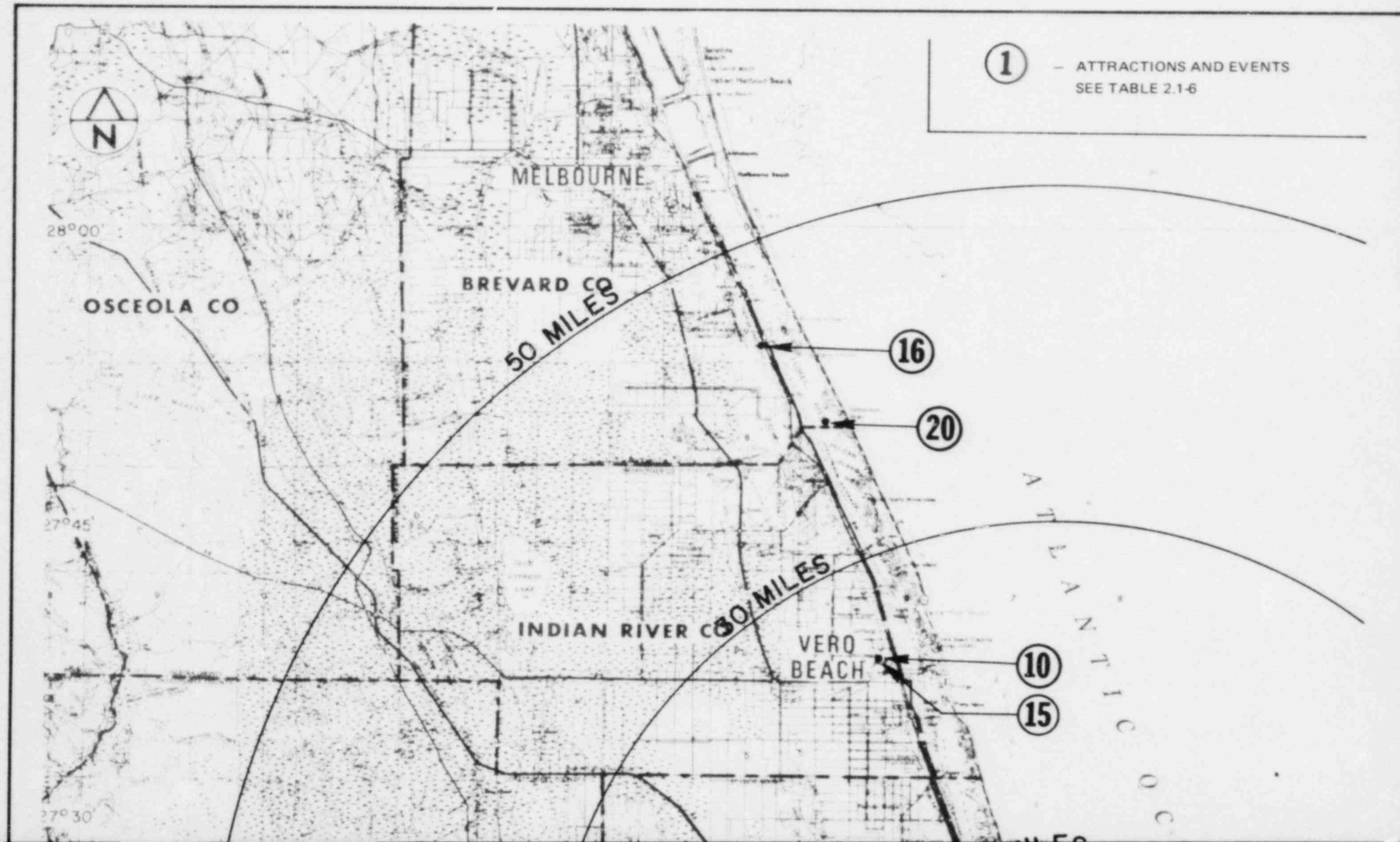

0 5 10 15
MILES
N
MELBOURNE
BREVARD CO
OSCEOLA CO
28°00'
27°45'
27°30'
INDIAN RIVER CO
VERO BEACH
OKEECHOBEE CO
N
30 MILES
NNE
NNW
NW
WNW
20
10
62391
1604
12986
17554
0
0
0
0
0
0
0
0
0



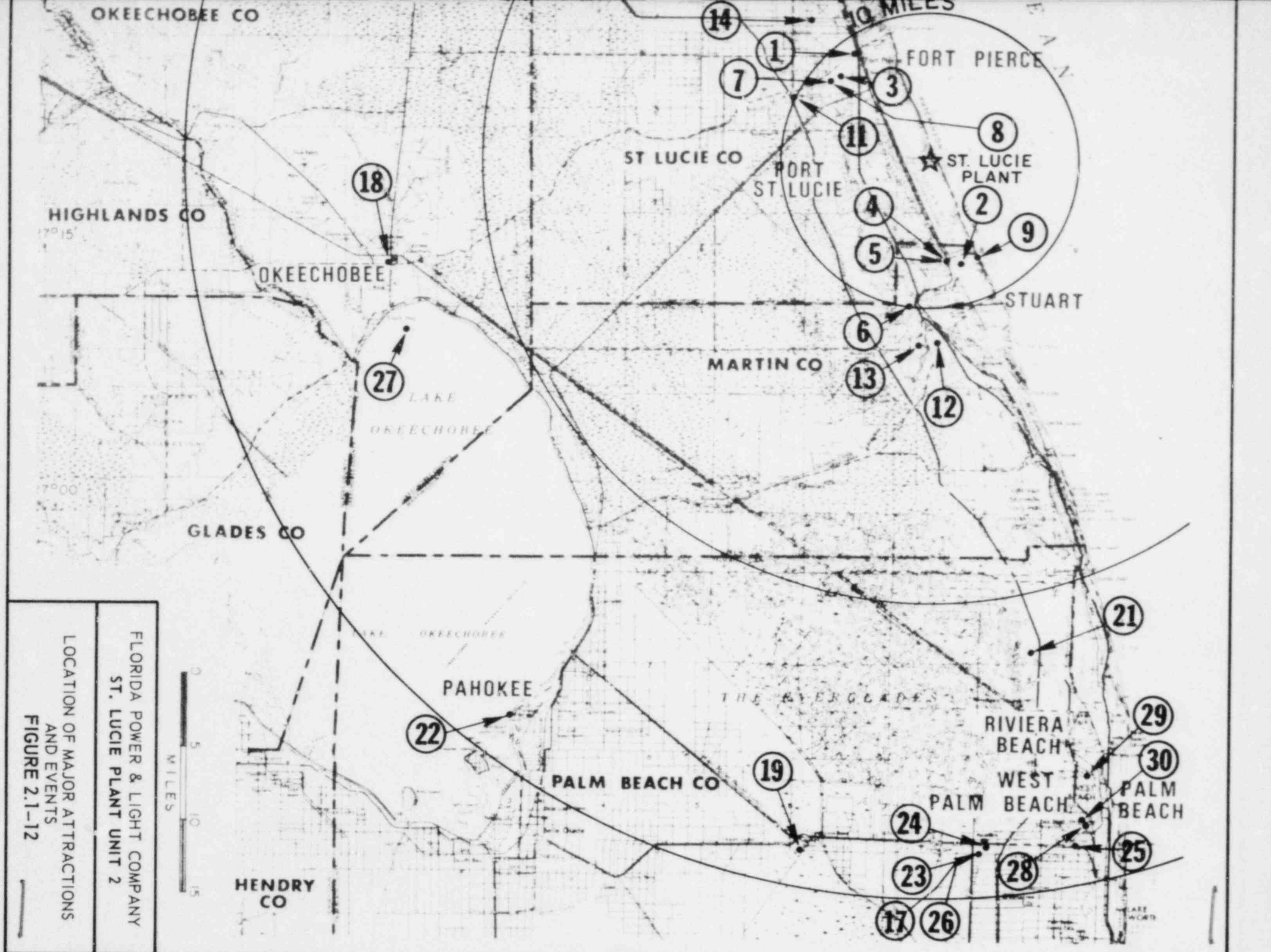
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

2030 PEAK - DAILY & SEASONAL
TRANSIENT POP'N – 10-30 MILES
SHEET 8 OF 8

FIGURE 2.1-11

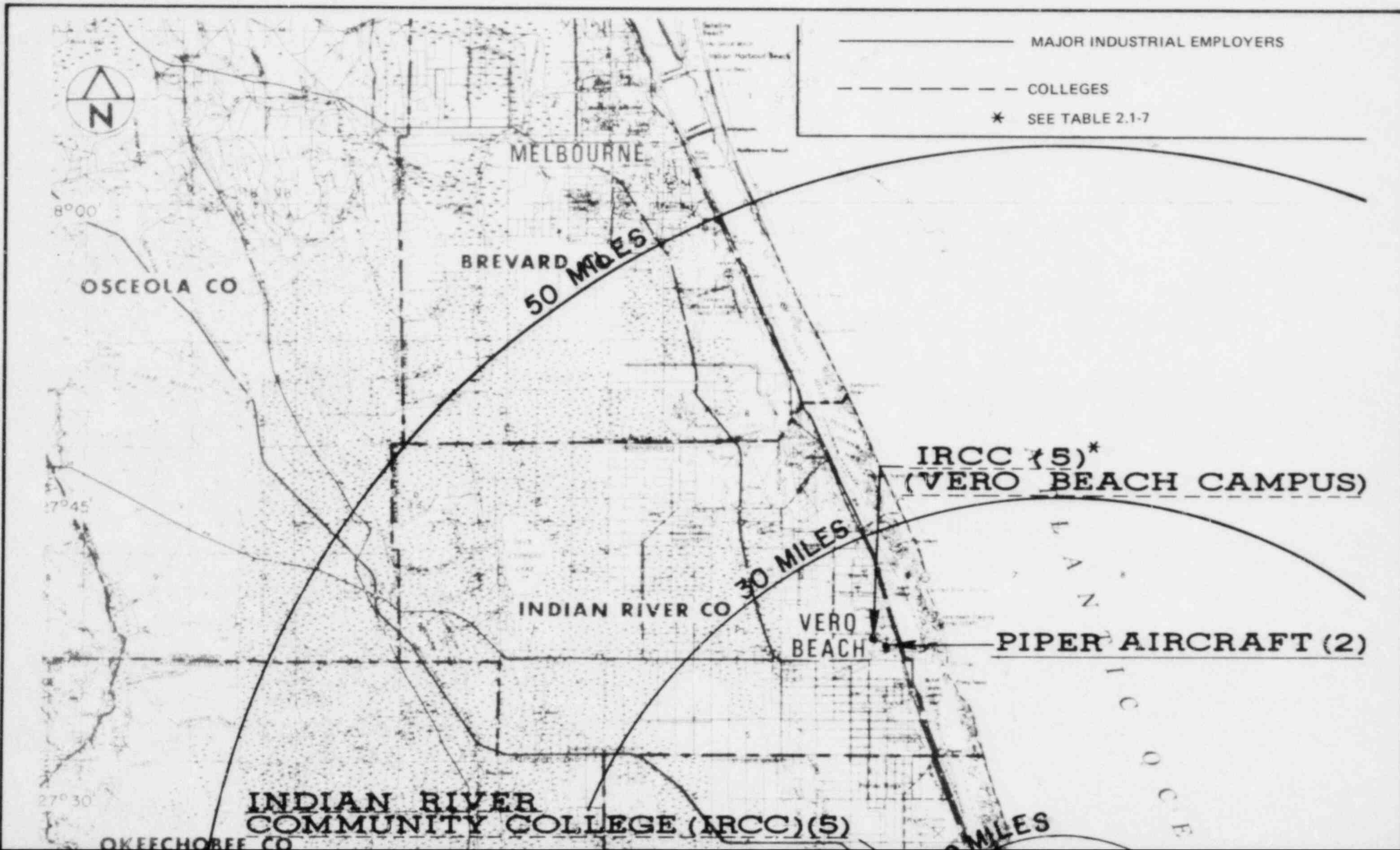


1 – ATTRACTIONS AND EVENTS
SEE TABLE 2.1-6
N
MELBOURNE
28°00'
BREVARD CO
OSCEOLA CO
50 MILES
16
20
27°45'
ATLANTIC OC
30 MILES
INDIAN RIVER CO
VERO BEACH
10
15
27°30'

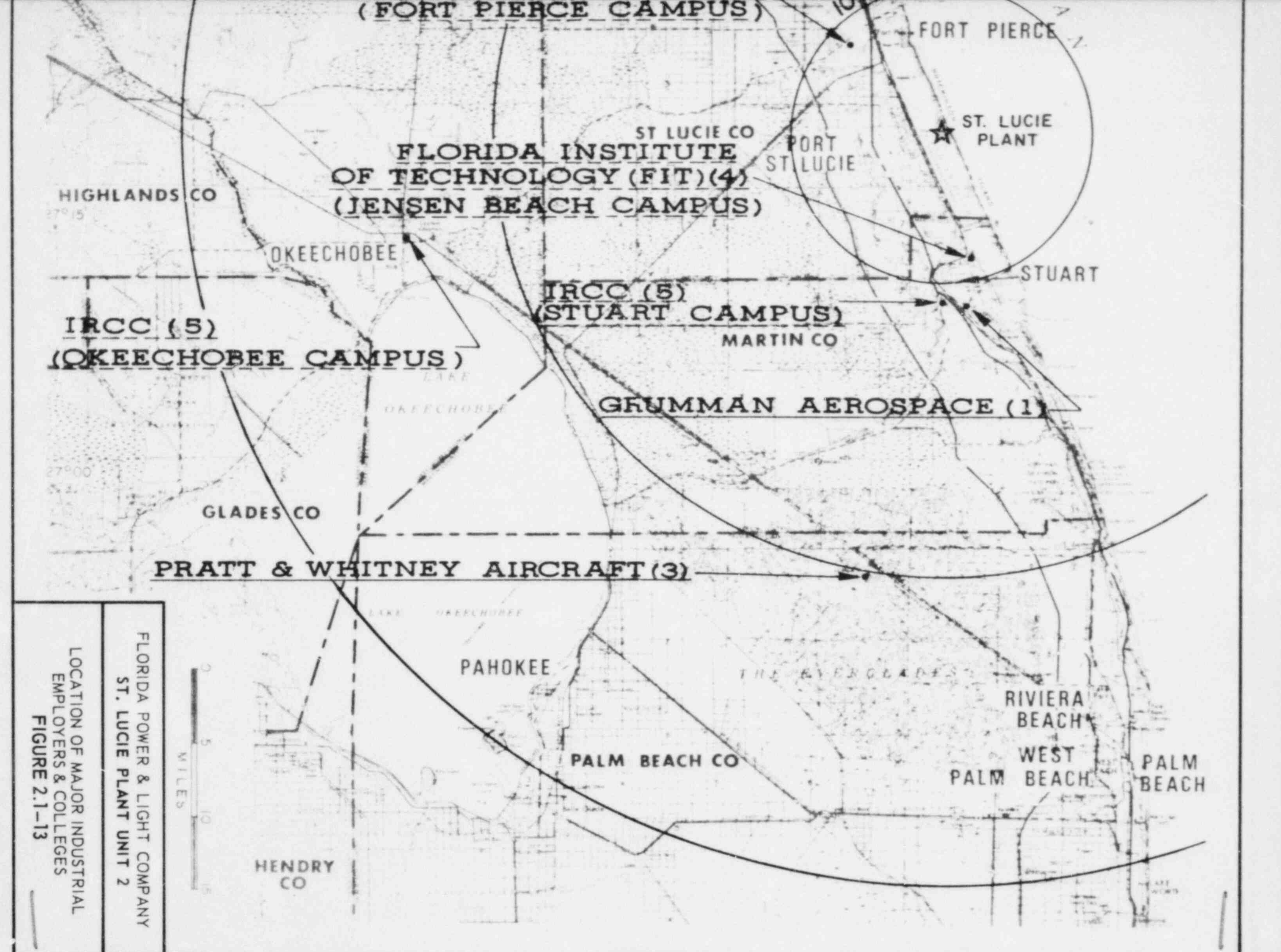


FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

LOCATION OF MAJOR ATTRACTIONS AND EVENTS
FIGURE 2.1-12

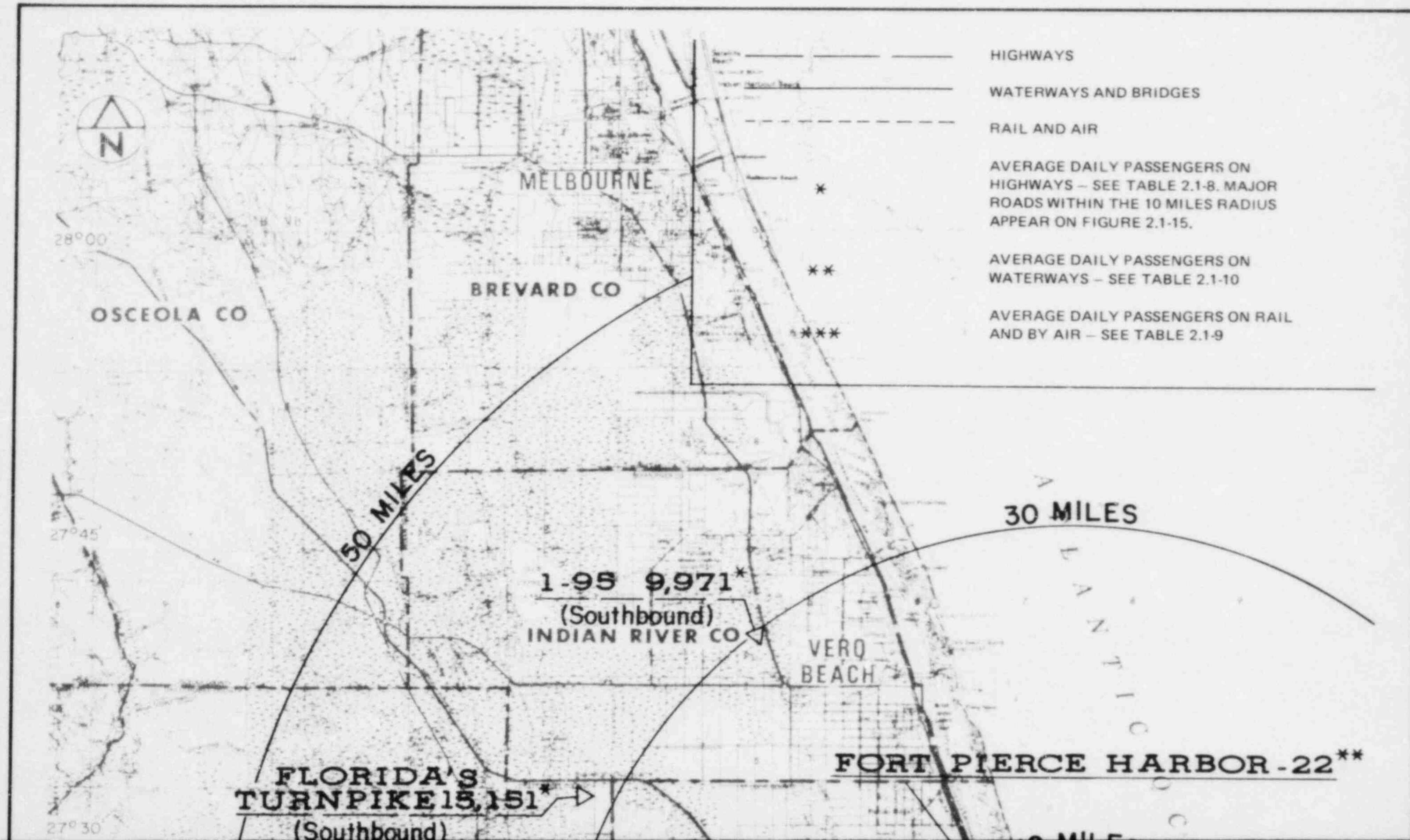


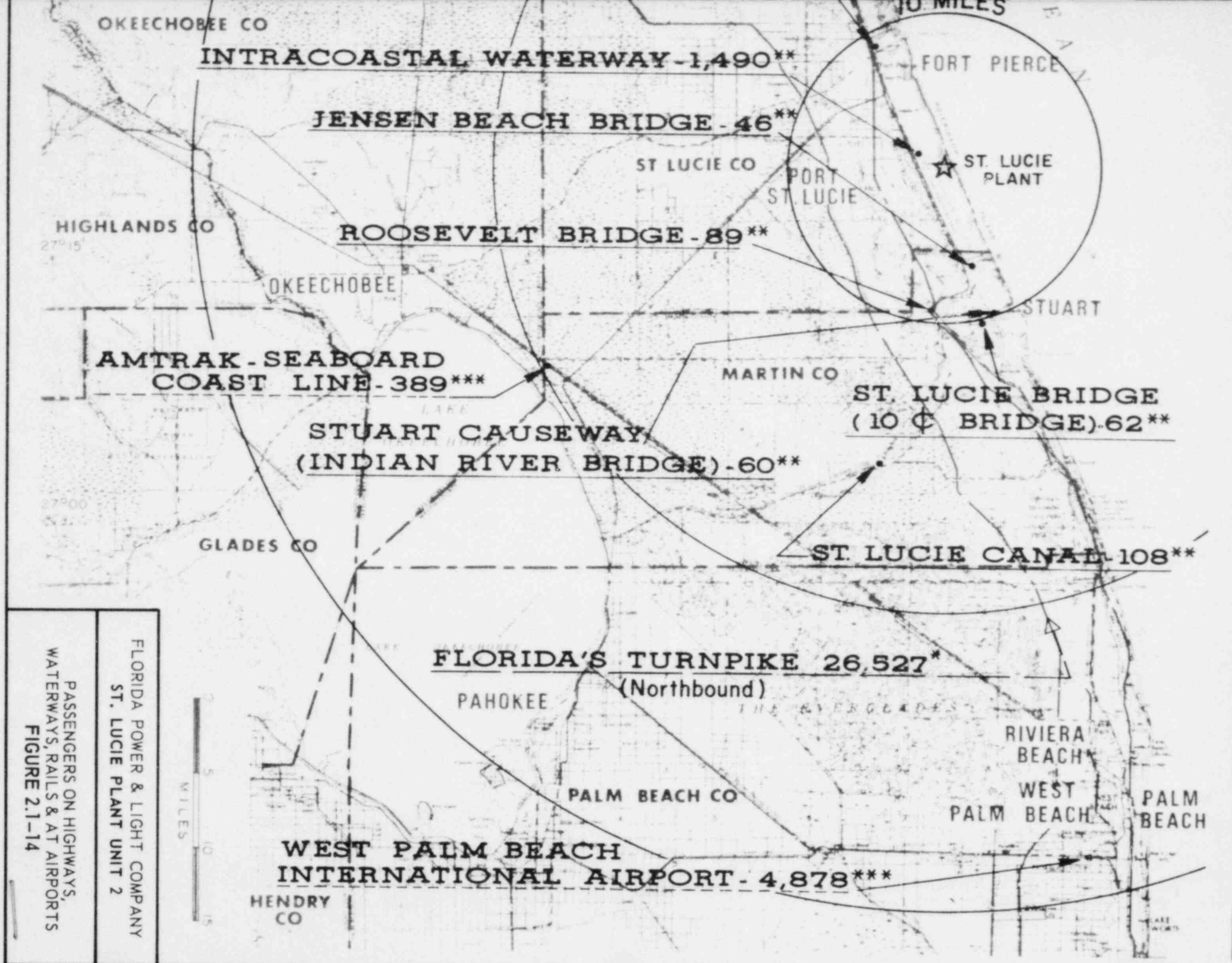
MAJOR INDUSTRIAL EMPLOYERS
COLLEGES
* SEE TABLE 2.1-7
N
MELBOURNE
BREVARD
OSCEOLA CO
50 MILES
IRCC (5)*
(VERO BEACH CAMPUS)
30 MILES
INDIAN RIVER CO
VERO BEACH
PIPER AIRCRAFT (2)
INDIAN RIVER
COMMUNITY COLLEGE (IRCC)(5)
OKEECHOBEE CO



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

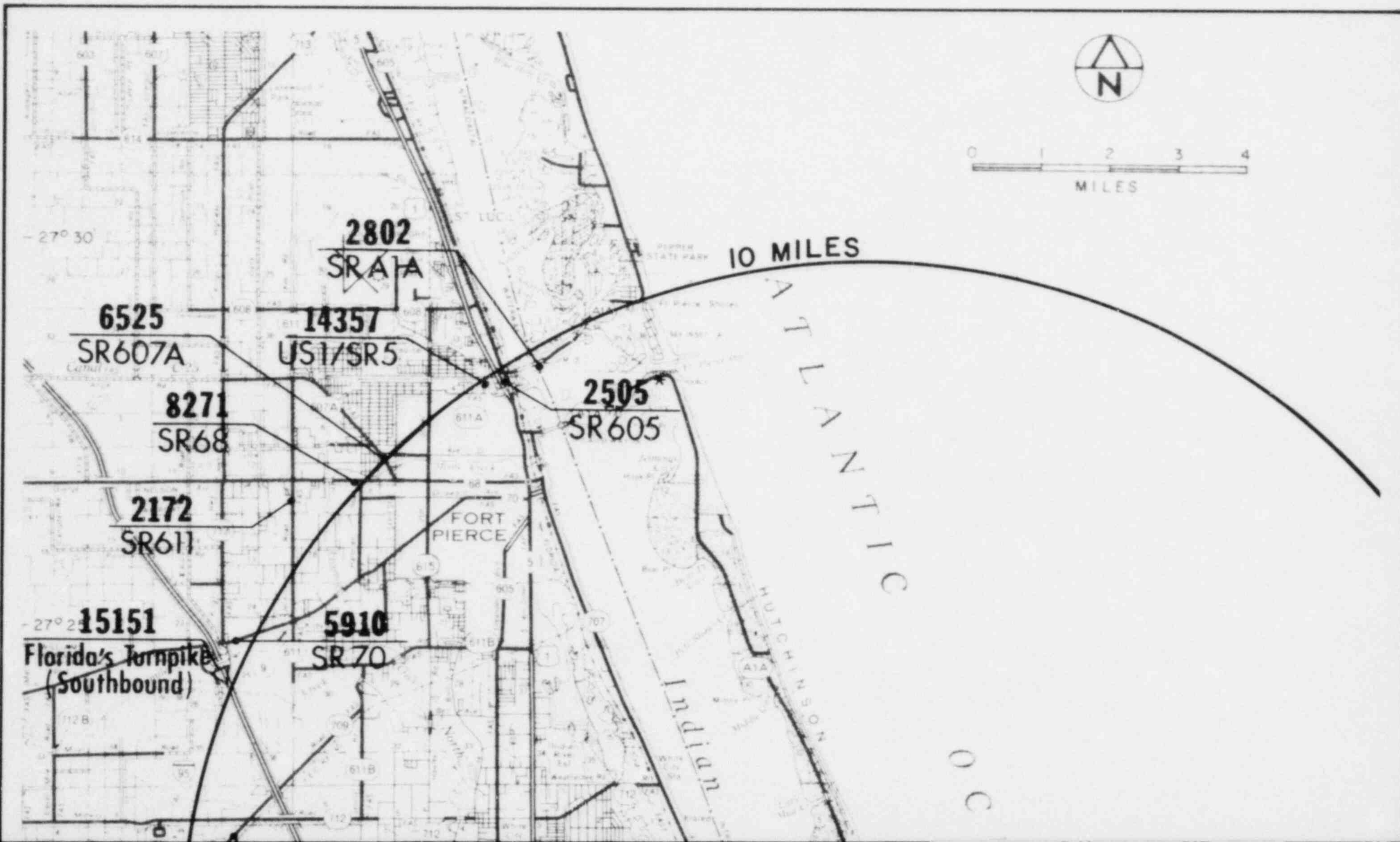
LOCATION OF MAJOR INDUSTRIAL
EMPLOYERS & COLLEGES
FIGURE 2.1-13


HIGHWAYS
WATERWAYS AND BRIDGES
RAIL AND AIR
AVERAGE DAILY PASSENGERS ON HIGHWAYS – SEE TABLE 2.1-8. MAJOR ROADS WITHIN THE 10 MILES RADIUS APPEAR ON FIGURE 2.1-15.
AVERAGE DAILY PASSENGERS ON WATERWAYS – SEE TABLE 2.1-10
AVERAGE DAILY PASSENGERS ON RAIL AND BY AIR – SEE TABLE 2.1-9
N
MELBOURNE
28°00
BREVARD CO
OSCEOLA CO
50 MILES
30 MILES
27°45
1-95 9,971*
(Southbound)
INDIAN RIVER CO
VERO BEACH
FORT PIERCE HARBOR-22**
FLORIDA'S TURNPIKE 15,151*
(Southbound)
27°30



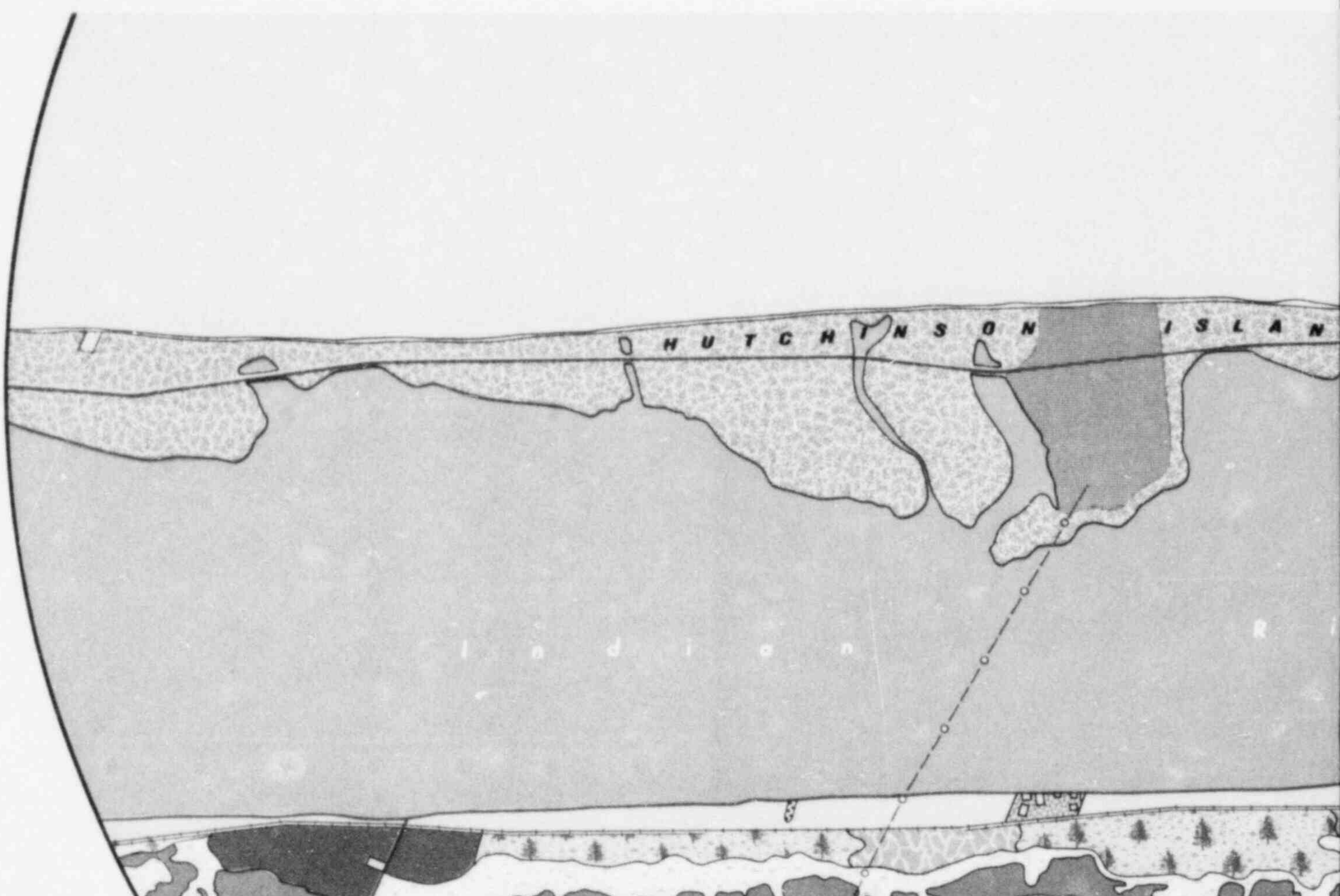
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

PASSENGERS ON HIGHWAYS, WATERWAYS, RAILS & AT AIRPORTS
FIGURE 2.1-14


N
0 1 2 3 4
MILES
10 MILES
27° 30
2802
SR A1A
6525
SR607A
14357
US1/SR5
2505*
SR605
8271
SR68
2172
SR611
FORT
PIERCE
15151
Florida's Turnpike
(Southbound)
5910
SR 70
ATLANTIC
OC
Indian
HUTCHINSON

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

AVERAGE DAILY PASSENGERS
ON MAJOR ROADS
FIGURE 2.1-15


HUTCHINSON
Indian

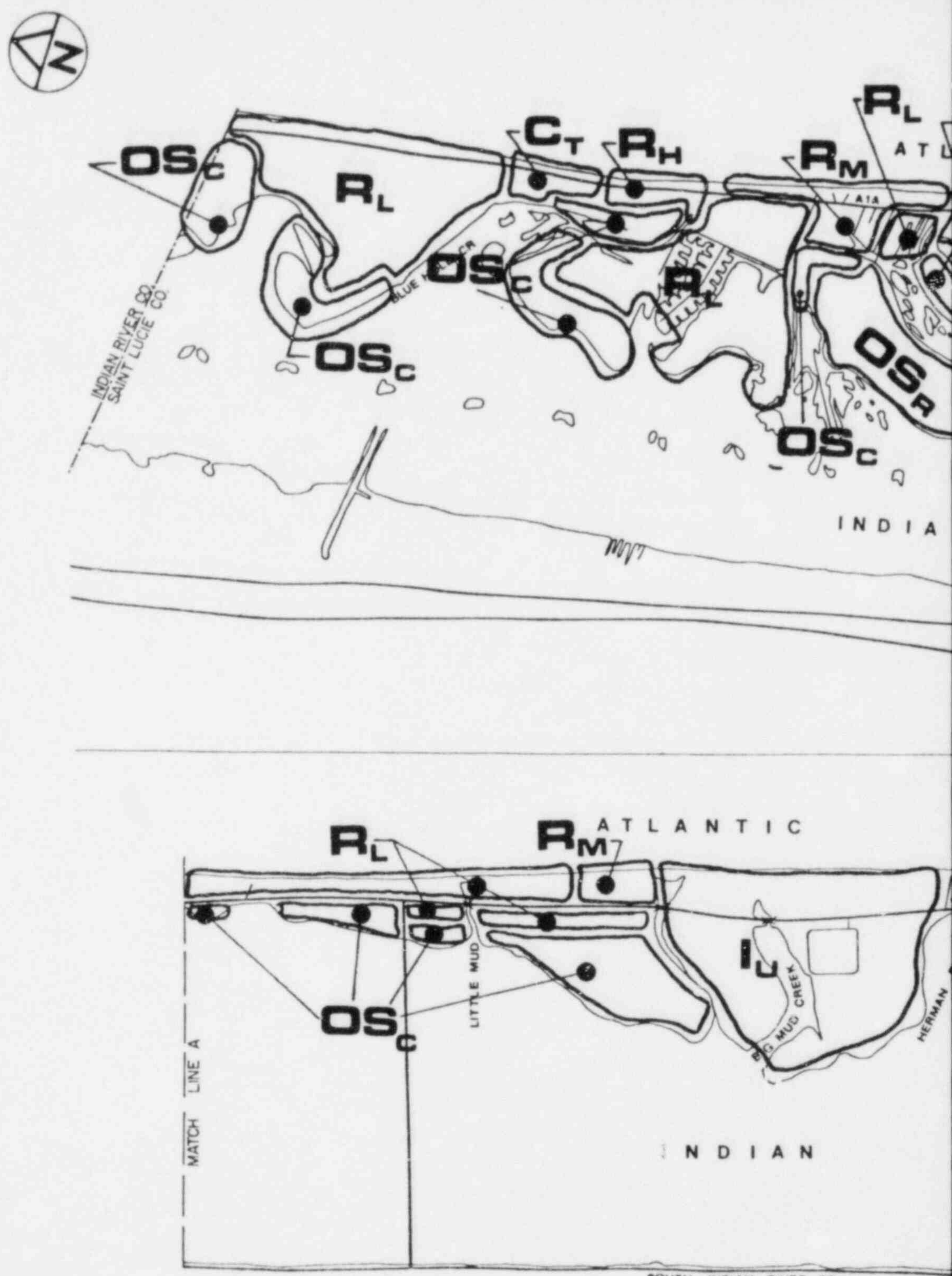
LEGEND

- SINGLE-FAMILY RESIDENCES
- MULTIPLE-FAMILY RESIDENCES
- TRANSIENT LODGINGS
- RETAIL COMMERCIAL SERVICES
- INSTITUTIONAL SERVICES
- LIGHT INDUSTRIAL
- HIGHWAY, PRINCIPAL ROAD
- RAILROAD
- ST LUCIE 1 & 2 FACILITIES
- TRANSMISSION LINES
- UTILITY STORAGE
- CEMETERY
- UNDEVELOPED LAND
- RECREATION FACILITIES
- CITRUS GROVES
- NURSERIES
- OLD FIELD
- PINE FLATWOOD FOREST/ FRESHWATER MARSH
- FRESHWATER MARSH
- MANGROVE
- STREAMS AND CANALS
- LAKES
- ESTUARY
- OPEN MARINE WATER
- BEACHES
- TRANSITIONAL AREAS
- EXTRACTIVE

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

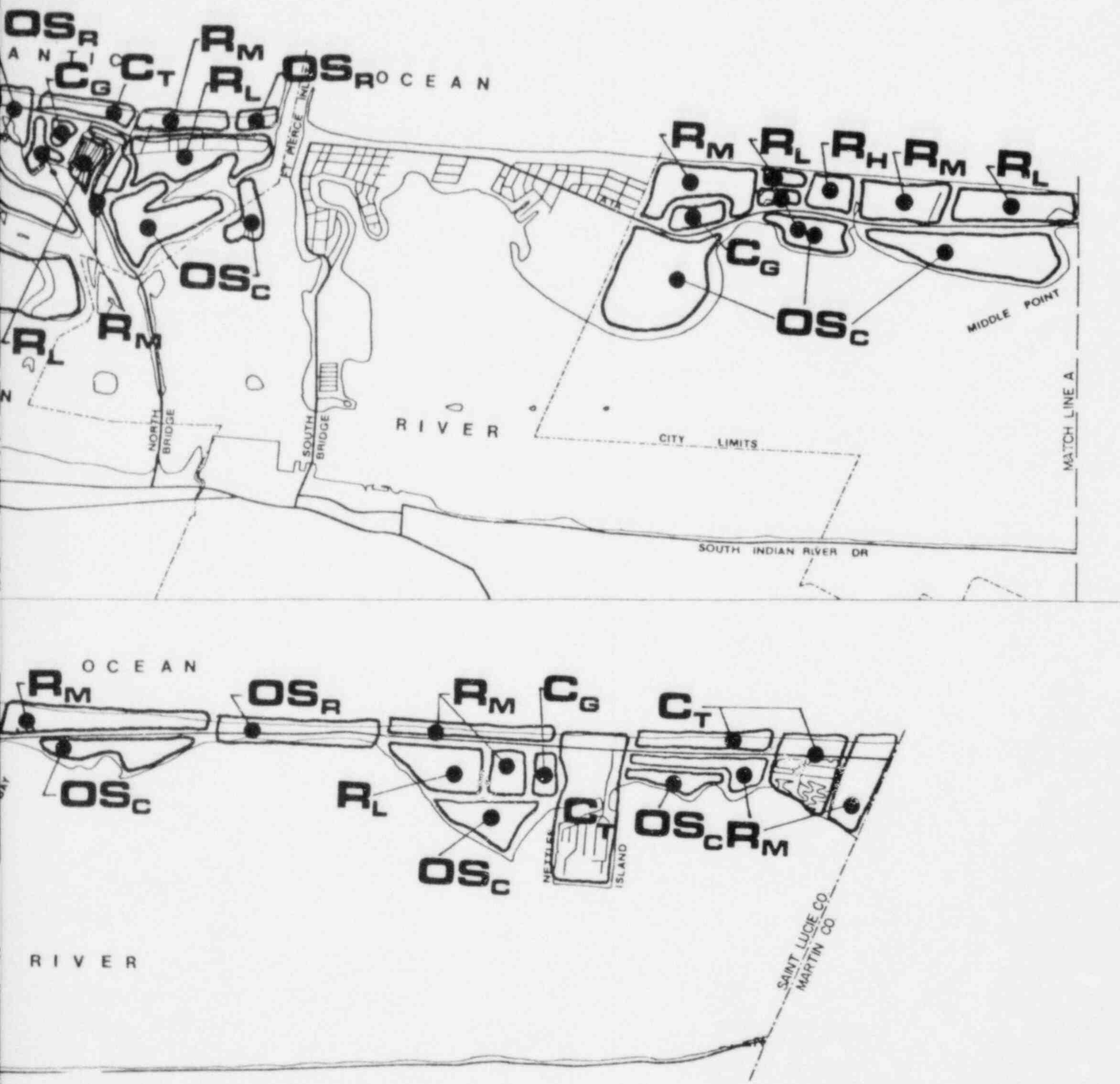
LAND USES WITHIN FIVE MILES OF ST. LUCIE UNIT 2

FIGURE 2.1-16



LEGEND

R_L	LOW DENSITY RESIDENTIAL		
R_M	MEDIUM DENSITY RESIDENTIAL	I_U	UTILITY INDUSTRIA
R_H	HIGH DENSITY RESIDENTIAL	OS_C	CONSERVATION OPE
C_G	GENERAL COMMERCIAL	OS_R	RECREATION OPEN S
C_T	HOSPITALITY COMMERCIAL		



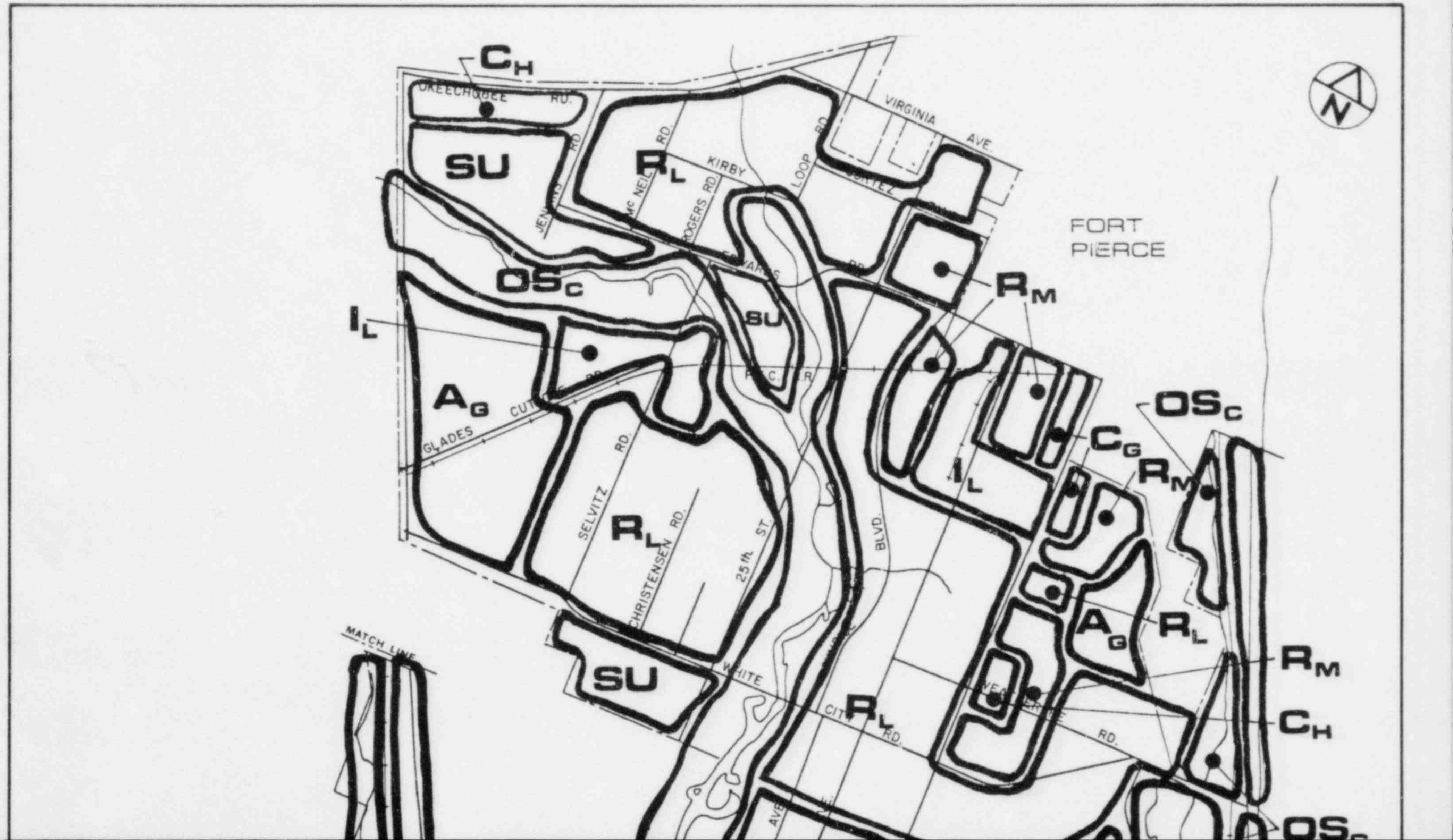
N SPACE

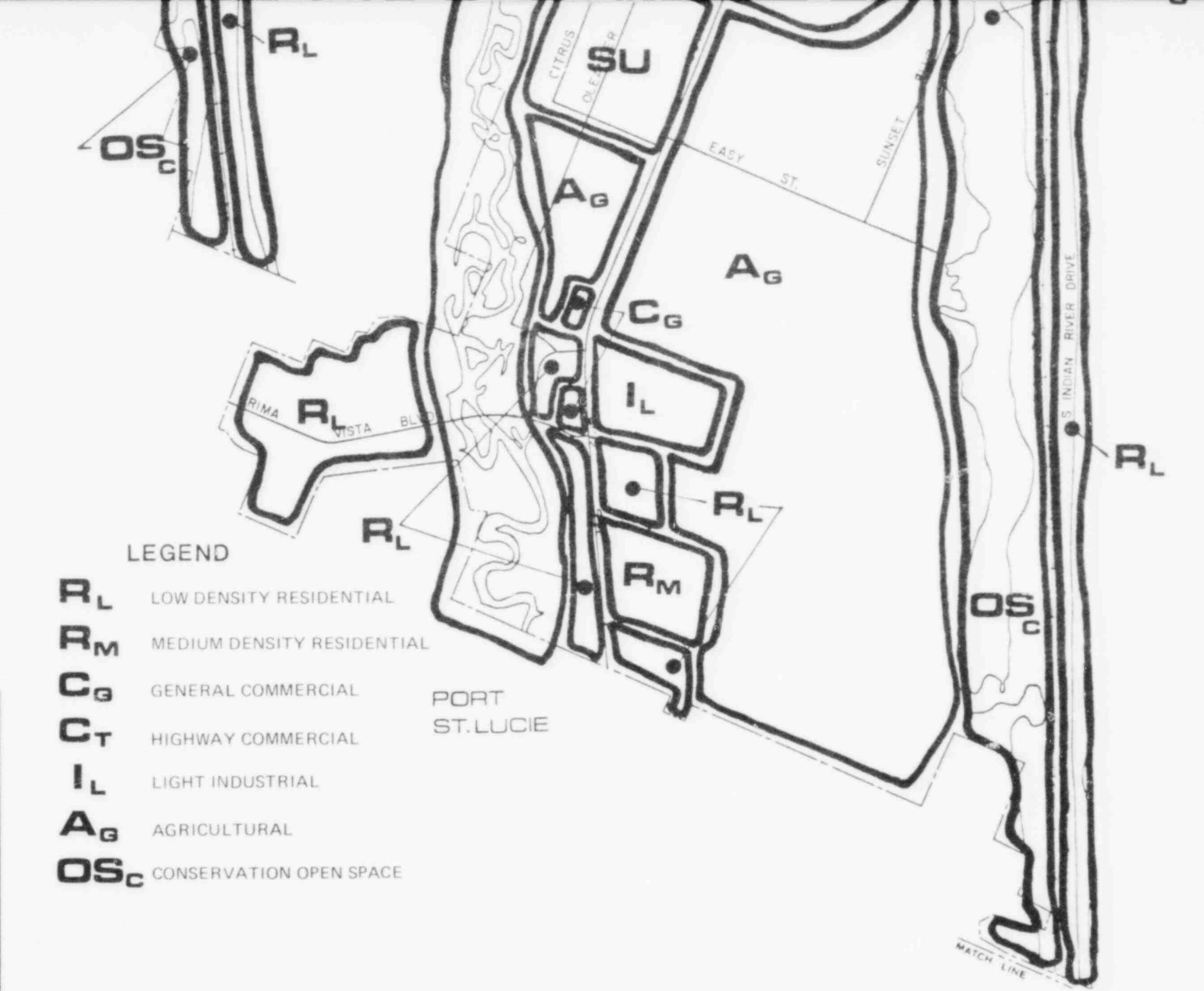
PACE

SOURCE: THE PLANNING/DESIGN GROUP, TAMPA, FLORIDA

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

LAND USE PLAN
HUTCHINSON ISLAND PLAN
FIGURE 2.1-17

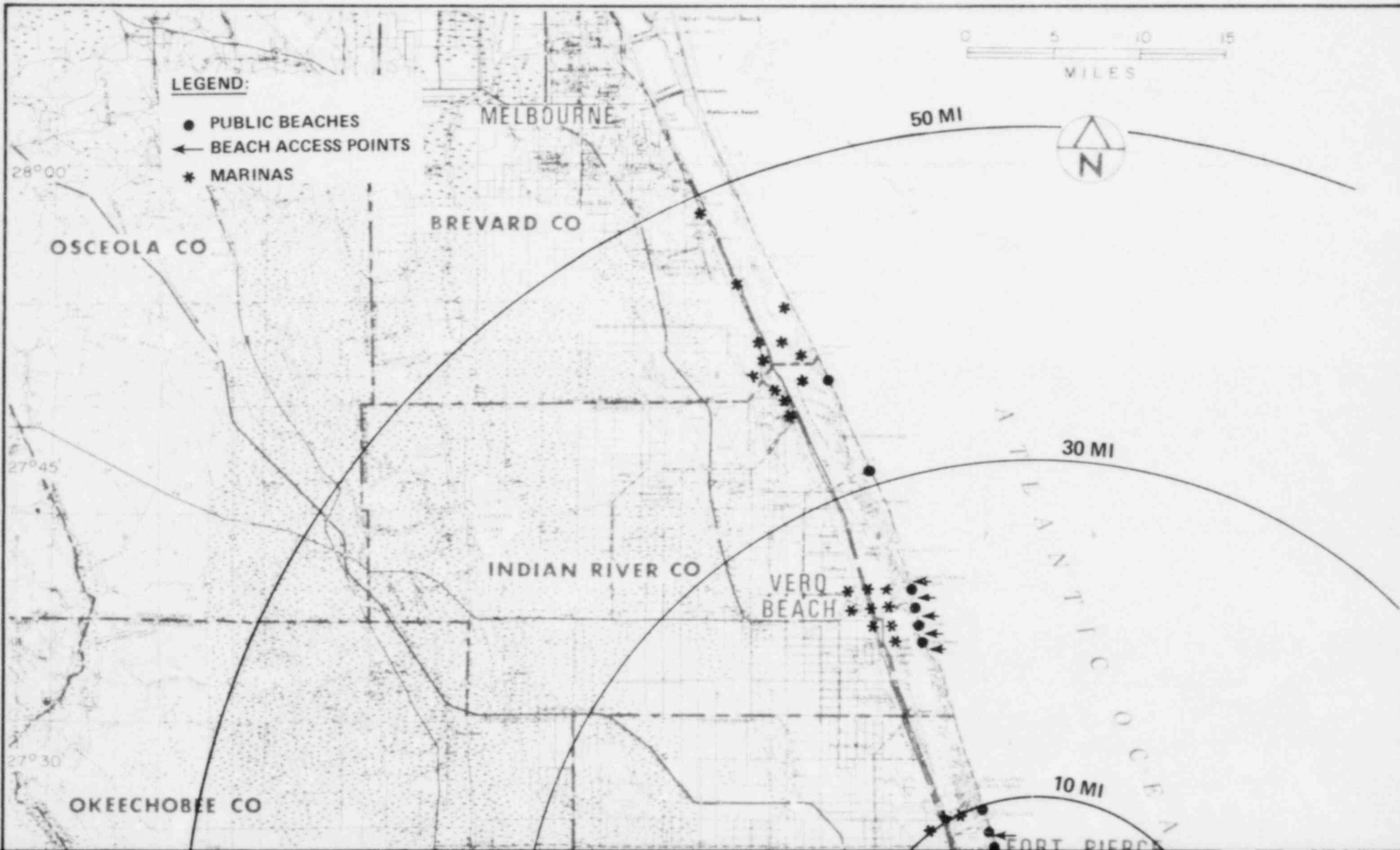

N
FORT PIERCE
OKEECHOBEE RD.
JENKINS RD.
MC NEIL RD.
KIRBY
ROGERS RD.
LOOP RD.
VIRGINIA AVE.
CORTEZ
EDWARDS RD.
F.E.C. R.R.
GLADES CUT-OFF RD.
SELVITZ RD.
CHRISTENSEN RD.
25th ST.
BLVD.
WHITE CITY RD.
RD.
AVE.
MATCH LINE
C_H
SU
R_L
OS_C
I_L
A_G
SU
R_M
C_G
R_M
R_L
A_G
R_M
C_H
OS_C



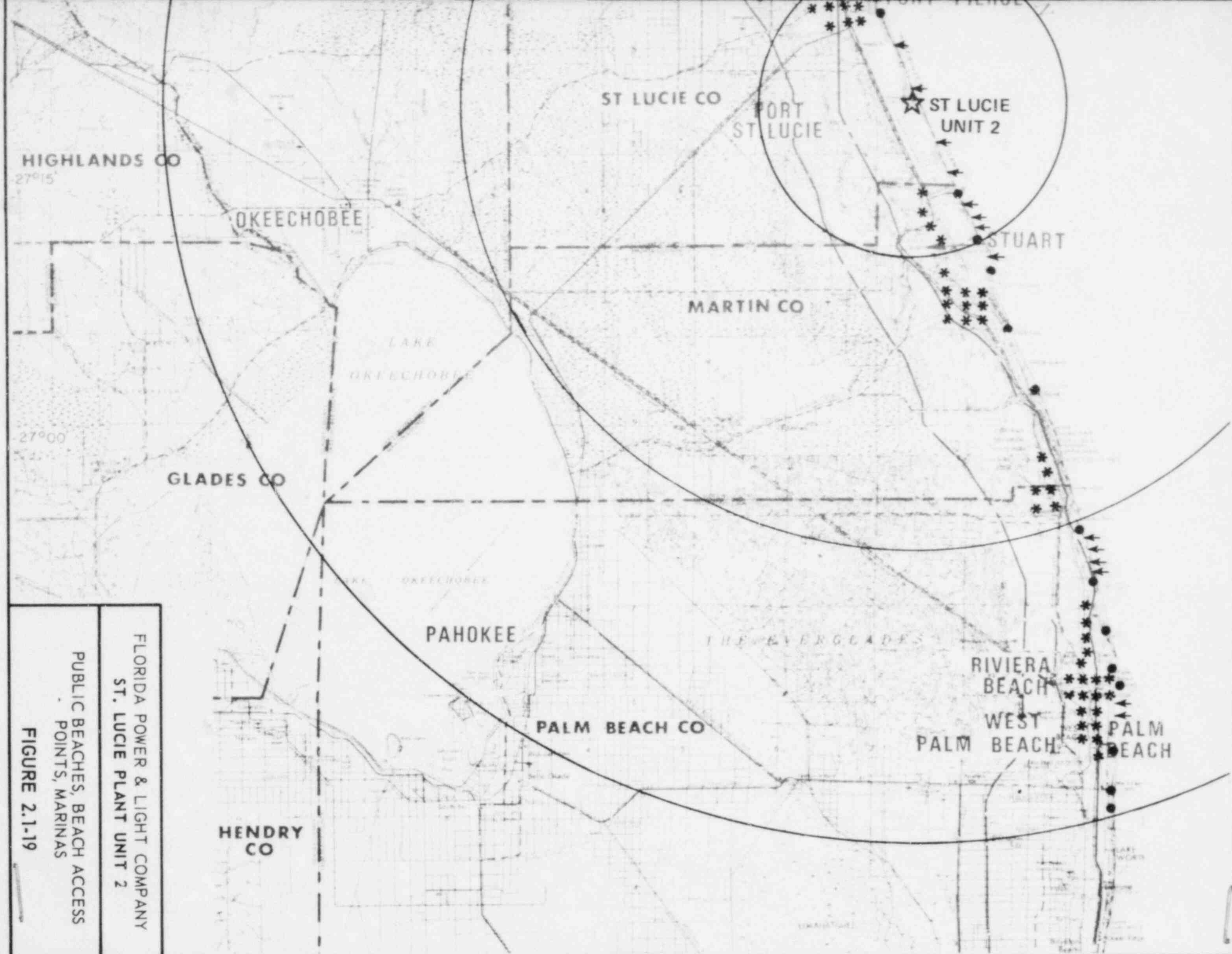
SOURCE: THE PLANNING/DESIGN GROUP, TAMPA, FLORIDA

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

LAND USE PLAN
SAVANNAS AREA
FIGURE 2.1-18



LEGEND:
PUBLIC BEACHES
BEACH ACCESS POINTS
MARINAS
0 5 10 15
MILES
MELBOURNE
50 MI
N
28°00'
BREVARD CO
OSCEOLA CO
27°45'
30 MI
INDIAN RIVER CO
VERO BEACH
ATLANTIC OCEAN
27°30'
10 MI
OKEECHOBEE CO
FORT PIERCE



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

PUBLIC BEACHES, BEACH ACCESS POINTS, MARINAS

FIGURE 2.1-19

2.2 ECOLOGY

2.2.1 TERRESTRIAL VEGETATION AND WILDLIFE

2.2.1.1 Site Description

2.2.1.1.1 Soils

Soils belonging to the Palm Beach - Canaveral Association occupy the eastern side of Hutchinson Island. These are characterized as sandy, nearly level to sloping, and excessively to moderately well drained. The nearly level swamp soils of the west side of the island are poorly drained and subject to frequent flooding[1].

2.2.1.1.2 Vegetation

Vegetation cover types identified from color infra-red aerial photographs (November 1978; scale, approximately 1:9700) and field inspection of FP&L property are depicted in Figure 2.2-1, as are field observation stations. Corresponding acreages are presented in Table 2.2-1. Two thirds of the 1132 acre site, or approximately 750 acres, are mangrove swamp. The remaining land is coastal beach and dune (49 acres), Australian pine (9 acres) and 300 acres associated with the operation of St Lucie Units 1 and 2 which are cleared of vegetation except for isolated pockets of scrub vegetation. Fifty-two acres of the 300 acres originally cleared have not been utilized recently, and currently support disturbed field and shrub vegetation.

a) Mangrove Swamp

Swamps in the site and vicinity are a mosaic of dense mangrove thickets and areas of open water (Figure 2.2-1). The red mangrove, *Rhizophora mangle*, predominates. Of 43 systematically located stations in which mangrove were observed, *R. mangle* occurred in 42, white mangrove (*Laguncularia racemosa*) in 12, and black mangrove (*Avicennia germinans*) in seven stations. *Laguncularia racemosa* and *A. germinans* were more often observed along canal edges. Canopy height in the closed stands has attained 15 to 20 feet. Trunk diameters of red mangroves are generally less than five inches, while a few black mangroves with diameters as great as 15 inches have been observed.

Mangrove swamps cover approximately 2,700 acres within a five mile radius of the St Lucie site. Their occurrence on Hutchinson Island and absence on the mainland (Figure 2.1-16) reflects the ability of the three mangrove species to survive inundation by water of variable to high salinity. In Florida, mangrove swamps attain their best development in the Ten Thousand Island and Cape Sable regions where the warmer climate renders conditions more favorable than on Hutchinson Island[2].

The observed relative abundance of *R. mangle* onsite may reflect sucessional processes or external physical factors[3]. Generally, mangrove species distribution exhibits a deep water to shallow water trend of R. mangle - A. germinans - L. racemosa/Conocarpus erecta (buttonwood)[2]. Rhizophora mangle, however, also typically dominates colonization of newly available habitat such as occurred in the Everglades after Hurricane Donna[4]. Past efforts to curb mosquito populations on Hutchinson Island through ditching, diking and flooding of swamps, may have eliminated all three species from some areas and consequently favored re-establishment by R. mangle.

Red mangrove stands on the site exhibited no obvious signs of defoliation or disease. Although tidal exchange is prevented or greatly reduced by encircling dikes, standing water is brackish to saline. No evidence was observed of invasion by freshwater flora.

A small area (2-4 acres) near the eastern edge of the mangrove swamp north of the discharge canal is elevated above surrounding terrain. Plant species observed there are noted in Table 2.2-2, Stations 3, 4 and 5. The presence of cabbage palm (Sabal palmetto) and the tropical hardwoods white stopper (Eugenia axillaris) and mastic Mastichodendron foetedissium) suggest that this area is an isolated stand of hammock forest.

Nielson and Nielson[7] reported the occurrence of a wide band of hammock forest at a site along SR AIA, four miles north of Fort Pierce (approximately 13 miles north of the St Lucie site). Hammock forest at the study site was transitional between beach and dune vegetation and mangrove swamp, and was briefly described as a "dense forest dominated by oaks and palms." Davis[8], however, states that the change from dune vegation to mangrove on offshore bars such as Hutchinson Island is typically abrupt, with little or no transitional hammock forest. An example of this sharp zonation can also be discerned in Table 2.2-2. Station 10, comprised entirely of red mangrove growing in approximately two inches of water, may be contrasted to Station 11, 60 feet seaward, where sandy soils, Australian pine and sea grape (Coccoloba uvifera prevail.

b) Coastal Beach Dune

Much of the area depicted in Figure 2.2-1 as beach and dune vegetation is saw palmetto (Serenoa repens). Saw palmetto and Australian pine (Casuarina sp.), both abundant on sandy soils of the site, tend to prevent establishment of other plant species.

Cover/abundance values of dune plants were recorded along meter-wide transects in the vicinity of the intake and discharge canals. Measurements obtained from the area replanted after construction of St Lucie Unit 1, and from the area to be cleared for installation of a second discharge pipeline, are presented in Tables 2.2-3 and 2.2-4, respectively. Coccoloba uvifera, Yucca aloifolia, Myrsine guianensis, Lantana involucrata and Crotalaria pumila are all species of tropical affinity which probably range not much further north of the St Lucie site[5].

c) Disturbed Field and Shrub

The approximately 52 acres of disturbed field/shrub depicted in Figure 2.2-1 consist of a few dense stands of Brazilian pepper (Schinus terebinthifolius), and open field. The latter is characterized by invading shrubs such as black mangrove, false willow (Baccharis angustifolia) and Brazilian pepper. Roughly half of the ground surface is bare soil, perhaps due to frequent flooding, compacted soil and poor drainage. Common herbaceous plants include grasses, sedges and rushes.

2.2.1.1.3 Wildlife

The following description of terrestrial animal use of the site and vicinity is restricted in area to Hutchinson Island and its adjacent waters.

a) Mammals

Over 20 species of mammals have been observed on Hutchinson Island (Table 2.2-5). Mammals most common near the site are the Virginia opossum, eastern mole, marsh rabbit, old field mouse and raccoon. Because the site vicinity contains limited upland area and few habitat types, opportunities for greater species occurrence do not exist. Relative biological isolation from the mainland is also a barrier to the introduction of additional species to the island. Disturbed field/shrub habitat depicted in Figure 2.2-1 likely supports the cotton rat, old field mouse and possibly the least shrew. If this area is allowed to succeed to shrub and hammock forest, species composition may shift toward cotton mouse, wood rat, and gray squirrel.

b) Birds

From 150 to 200 species of birds conceivably occupy the site and vicinity at some time each year (Table 2.2-6), based on data from the St Lucie Unit 2 Environmental Report - Construction Permit (Table 2.2-3), a winter field visit (first week February 1979), and recent Christmas bird counts[9][10] near Ft Pierce, Florida, approximately 13 miles to the north. Limited available habitat types and upland land area reduce species occurrence near the site.

Several important species were observed in the site area during the 1979 winter field visit, including raptors and waterbirds (see Section 2.2.1.2.2). Mangrove stands immediately north of the discharge canal and Big Mud Creek were prominent roosting and feeding areas for wading birds. Mallards and blue-winged teal were seen at the plant island area in canals and in temporary bodies of water. The intake and discharge canals and offshore areas were visited by feeding royal terns, ring-billed gulls and several shorebird species. Bird species common to the mangrove stands and associated roads were ground doves, yellow-throated warblers, common yellowthroats, and blue-gray gnatcatchers. Osprey were frequently seen over waters adjacent to the site and American kestrels were common in all upland habitat types. One Cooper's hawk was sighted about three miles south of the site.

c) Sea Turtles

Three species of sea turtles, loggerhead (Caretta caretta), green turtle (Chelonia mydas) and leatherback turtle (Dermochelys coriacea) nest on Hutchinson Island. The current status of these species is discussed in Section 2.2.1.2.2.

d) Domestic Livestock

Occurrence of domestic livestock within a five mile radius of the site is discussed in Section 2.1.3.

2.2.1.2 Species of Special Importance and Their Relation to the Environment

Important species are defined as those potentially affected by the proposed action and which are of recreational or commercial value, threatened or endangered, critical to the survival of species considered important for the previous reasons, or critical to the functioning of terrestrial systems.

2.2.1.2.1 Flora

a) Protected Flora

Verbena maritima is proposed for listing by the U S Fish and Wildlife Service as threatened[11], and occurs on sandy, open, disturbed habitat throughout the area east of SR A1A in the vicinity of the site and surrounding area. Two species classified by the State as threatened[12], Acrostichum aurium and Sabal palmetto, occur in several locations along mangrove swamp edge, onsite.

Many of the plants included on the Official Florida List occur in South Florida[12]; some of these can survive on Hutchinson Island and might occur onsite. Annona glabra and Scaevola plumieri, both threatened, occupy mangrove swamp or beach/dune habitat, respectively. Tillandsia fasciculata is endangered and occurs along mangrove swamp edge and hammock forest. Myrcianthes fragrans var Simpsonii is proposed for Federal status as threatened, and is also found associated with hammock flora. These species were not encountered while performing site vegetation mapping studies.

b) Mangroves

Mangroves are a critical component of an ecosystem which provides habitat for an abundance of organisms including rare fauna. Mangrove swamps are also important for their moderating influence on storm impact. Leaf litter and algae production in an established mangrove swamp support a detritus based food web comprised of a diverse number of species[2]. Primary consumers of detrital matter are in turn a major food source for marine fishes, wading birds and waterfowl. Environmental factors which regulate mangrove primary productivity relate to tidal exchange and water chemistry, as summarized below (M R Carter, et al, 1973, cited in[3]).

Tidal Factors:

1) Oxygen transport to root system.

2) Removal of salt and toxic sulfides from soil water.

3) Tidal interaction with surface water particulate load affecting sediment deposition or erosion.

4) Vertical motion of the groundwater table possibly transporting detrital based nutrients to mangrove root zone.

Water Chemistry Factors:

1) Total salt content determines pressure gradient between soil solution and plant, thus affecting leaf transpiration.

2) Possible compensatory effect of high soil macronutrient content on root absorption of nutrients (which is impeded by seawater salinity).

3) Input of allochthonous macronutrients contained in wet season surface runoff.

c) Beach and Dune Flora

Beach and dune vegetation retard wind erosion. Stabilized dunes in turn diminish effects of wave action on areas further inland. Sea oats, *Uniola paniculata*, are an especially effective soil-binder. The tropical affinity of some dune species also renders them of special interest to botanists and naturalists.

2.2.1.2.2 Vertebrate Fauna

a) Endangered and Threatened Species

Vertebrates of special importance can be classified in terms of their level of scarcity, and sport or recreational value. Species scarcity is officially determined by the Federal government and the State of Florida. Endangered species on the Federal list[11] which occur on Hutchinson Island are the peregrine falcon (*Falco peregrinus*), bald eagle (*Haliaeetus leucocephalus*), brown pelican (*Pelecanus occidentalis*), West Indian manatee (*Trichechus manatus*), leatherback turtle and green turtle. Of these, only the leatherback turtle and green turtle are known to breed on the island. The loggerhead turtle is classified as threatened by the Federal government and also breeds on Hutchinson Island.

Several of the other species winter and migrate through the Hutchinson Island area and may be common wildlife components of the region (such as the brown pelican). The wood stork (Mycteria americana) is common in the site area during the winter and has additionally been classified endangered by the State of Florida[13].

b) Marine Turtles

Sea turtles spend their entire life in the ocean except for brief excursions to the nesting beaches by the females. In general, nesting takes place on summer nights when the female crawls up the beach and digs a nest chamber. Over a hundred eggs are laid and covered with sand. Eggs hatch after approximately two months, at which time hatchings surface from the nest and crawl to the sea (usually during the night).

The beach along Hutchinson Island is a major nesting site for loggerhead turtles (Caretta caretta) and one of the few locations where the green turtle (Chelonia mydas) and leatherback turtle (Dermochelys coriacea) nest in Florida. Worldwide populations of marine turtles are declining. In the U.S. this decline has largely been attributed to a reduction in available and suitable nesting beaches due to costal development and usage[14]. To aid in the protection of these species, they have been listed under the Endangered Species Act of 1973 with the loggerhead turtles classified as threatened and the Florida population of green turtles and the leatherback turtle listed as endangered. Loggerhead turtles dominate the turtle nesting on the island[15,16].

Loggerhead Turtles

Loggerhead turtles represent the predominant nesting activity on Hutchinson Island. The nesting season is generally between late April and late August, with the maximum nesting activity occurring in June or July depending on ocean temperatures. Adult females may nest several times during the summer, with up to seven nests recorded for a single female. The nesting interval is approximately two weeks. Individual females are thought to breed in a two or three year cycle[17].

The total number of nests on Hutchinson Island was estimated by plotting number of nests for each of nine, 0.75 mile, sample regions (Figure 2.2-2) against distance along the beach and calculating the ratio of counted nests to beach length in the sample regions compared with total nests to total beach length. The results of the surveys were 4661 nests in 1971, 4234 in 1973, 4813 in 1975 and 2872 in 1977. Previous estimates for total nest density ranged from 3550[15] to 6067[16] for 1971 and 5359[16] in 1973. The discrepancy in estimates is largely caused by different treatments of weighted ratios and by various authors' consideration of the nine sample areas as representative of the rest of the island.

Beach characteristics including slope, width, erosion, silhouette, lighting, dune height and human activity are thought to influence the site specificity of nesting turtles[16]. Coincident with the trend of increasing north-to-south beach stability and width is a trend of increased nesting activity. This characteristic was observed in all surveys (Figure 2.2-3). A positive correlation exists between nesting activity and topographical suitability of the beach[18]. At the present time these factors appear to influence the distribution of turtle nesting activity along the beach.

Since 1973, there has been an overall increase in the ratio of unsuccessful to successful nesting crawls. In the years studied, the percentage of unsuccessful nests in the nine sample regions was 30.4, 41.7, and 46.8 percent in 1973, 1975 and 1977, respectively. This general trend may reflect effects of development and of increased human activity on the island which deters crawling turtles from completing nests[16,17].

Emerging hatchlings are easily disoriented by bright lights and will often crawl toward lights rather than toward the ocean. This misdirection increases their exposure to predators and desiccation, and thousands of hatchlings have been killed on the roadways near nesting beaches. Heavy predation by raccoons reduces the effective reproductive rate of the turtles. Nest losses recorded during the four Hutchinson Island surveys have been locally as high as 82 percent (Figure 2.2-4). Predation destroyed 28 percent of the nests in 1971, 44 percent in 1973, 21 percent in 1975 and 39 percent in 1977. Lower predation rates in sample areas 6, 7 and 8 may be related to human activity and raccoon habitat loss to development. The highest predation rates were at the northern and southern portions of the island.

The total recruitment of loggerhead turtle hatchlings from the Hutchinson Island rookery is estimated using an average of 120 eggs per nest, the annual nest predation rate observed and a hatching rate of 64 percent of the eggs per nest[16]. Hatchling production for the years surveyed is estimated at 257,734 in 1971, 183,941 in 1973, 292,014 in 1975 and 134,547 in 1977. Mortality due to disorientation of hatchlings and predation by birds and mammals further reduce recruitment.

The world status of adult loggerhead turtle populations is poorly known, although considered to be declining[14]. An estimated 25,000 to 50,000 adult turtles constitute the Florida population[14,19]. Population decline has been largely attributed to nesting habitat destruction, predation and commercial exploitation[14].

St Lucie County ranked third in density of turtle tracks per mile and fourth in total tracks during a statewide aerial survey of nesting beaches in 1977. An estimate of 8254 nesting females was made for the State of Florida[19]. Using the same data base, the Hutchinson Island population of nesting females totaled 670 for the same period. Hutchinson Island, therefore, represents about eight percent of the total Florida nesting population.

Green Turtles

Green turtles have life history requirements similar to loggerheads; however green turtles are herbivorous and occupy a more southerly range. Compared to loggerhead turtles, green turtles are uncommon on Hutchinson Island. The numbers of their nests observed in the beach surveys were 22 in 1971, 26 in 1973, 43 in 1975 and five in 1977.

Green turtles produce about 100 eggs per nest. Using the predation and hatchability factors applied to loggerhead turtles, Hutchinson Island had a potential of 1014 hatchlings in 1971, 932 in 1973, 2174 in 1975 and 195 in 1977. In 1956, the House of Refuge Museum became active in nest transplanting, hatching, rearing and releasing green turtles. This effort has been aided by the FP&L beach surveys which locate nests for transplanting. The result of this program has been the near elimination of the predation factor in egg mortality and consequent potential for survival of the Florida green turtle population.

The population of green turtles is estimated to be between 100,000 and 400,000 worldwide. The Florida population is estimated to be less than 50 adult females[14]. Assuming a two or three year breeding cycle, the 8-15 green turtles estimated to nest on Hutchinson Island[16] represent a major portion of the Florida population.

Leatherback Turtles

Leatherback turtles nest only incidentally in Florida. Hutchinson Island beach surveys have identified no more than six nests per year.

c) Game Animals

Several game species are common to this area. Marsh rabbits and gray squirrels, both upland game species, are present. Waterfowl such as blue-winged teal, mallards, American coots, and common gallinules were seen in the site vicinity during the 1979 winter survey.

2.2.1.3 Pre-existing Environmental Stresses

Trenches and dikes created in the past, for mosquito control, probably still affect mangrove swamp structure and function by partially controlling water flow. Examination of factors regulating mangrove primary productivity, tabulated in Section 2.2.1.2.1 b, indicates that all of the processes listed would be influenced by channelizing water movement and blocking tidal exchange. Tidal flow in an undisturbed system permits nutrient transport to coastal marine communities and access for marine fauna. Diking effectively prevents this nutrient flow and biotic movement, presumably decreasing species diversity and ecosystem productivity.

The site is periodically exposed to hurricanes and cold spells. The former may limit maximum tree height and favor periodic re-establishment of R.

mangle - dominated forest[3]. Cold spells cause defoliation[3] and may be a possible cause of perturbation on Hutchinson Island, which is near the northern range of mangrove distribution[2].

2.2.2 AQUATIC ECOLOGY

The biological communities in the inshore and nearshore marine environments of Hutchinson Island have been sampled in two different field programs. St Lucie Unit 1 preoperational (baseline) monitoring was conducted by the Florida Department of Natural Resources, September 1971 - September 1973. St Lucie Unit 1 operational monitoring, conducted by Applied Biology Inc, was initiated in March 1976 and is the St Lucie Unit 2 preoperational monitoring program. Currently available data from this program consists of results through December 1978. To provide consistency between the two sampling programs, stations sampled during St Lucie Unit 1 operational monitoring coincided with stations occupied during St Lucie Unit 2 preoperational monitoring (Figure 2.4-6).

The Applied Biology data[20-22], resulting from an extensive sampling program, which included detailed taxomic identification and statistical analyses, have been used to describe the salient features of spatial and temporal distributions of the biotic assemblages near the St Lucie site. Where appropriate, comparisons with results from the St Lucie Unit 1 preoperational monitoring are also presented.

2.2.2.1 Phytoplankton

The phytoplankton data resulting from St Lucie Unit 1 baseline and operational monitoring are summarized in Table 2.2-7. Significant results of statistical tests performed on phytoplankton data collected at the offshore stations during the operational monitoring (within years, 1976-1978), are presented in Table 2.2-8. Table 2.2-9 presents similar information from tests conducted on the pooled data set from these years. Figure 2.2-5 presents a time series of mean (off-shore stations 0-5) cell densities for the three year period. Mean cell densities for all stations and years in surface and bottom samples are presented in Figures 2.2-6 and 2.2-7, respectively.

Phytoplankton communities are classified into major taxonomic groups which are primarily based on photosynthetic pigments in addition to morphological features. Major groups found at St Lucie include Bacillariophyta (diatoms) Chlorophyta (green algae), Chrysophyceae (yellow-brown algae and silicoflagellates), Cryptophyta, Cyanophyta (blue-green algae), Euglenophyta, Haptophyceae (including coccolithophores), Prasinophyceae, Pyrrophyta (dinoflagellates), unidentified phytoflagellates, and Xanthophyta. Complete species lists are found in Appendix 2.2A.

Chlorophyll a is the primary photosynthetic pigment and is found in all phytoplankters. Concentrations of chlorophyll a, with additional information of available light, may be used to estimate productivity values[23]. Phaeopigments, the product of chlorophyll catabolism, result upon death of the organism. Variations in cell density, chlorophyll a, phaeopigments and the physical attributes of the water at the time of sampling were used to examine the temporal and spatial fluctuations of phytoplankton populations off St Lucie.

2.2.2.1.1 Species Succession

Diatoms dominated the phytoplankton communities in all years of study. During the baseline monitoring, species of Nitzschia and Bellerochea, Thalassionema nitzschoides, and Skeletonema costatum were abundant throughout the study period. Diatoms constituted 57.5 percent, 42.2 percent, and 59.3 percent mean relative abundance in the operational monitoring years 1976, 1977, 1978, respectively, with Skeletonema costatum the dominant species in 1976 and 1977, and codominant with Nitzschia delicatissima in 1978. During the baseline study, blue-green algae dominated the communities collected at Station 3 in November 1971 and at Station 1 in November 1972. This phenomenon was not observed during the operational monitoring. The relative abundance of diatoms was consistently high during periods of peak abundance (54.2 percent in October 1976, 74.6 percent in November 1977, and 64.3 percent in November 1978). Dinoflagellates, which reached 50 percent relative abundance at Stations 3, 4, and 5 in July 1971, never represented more than 32 percent (and generally less than five percent) of the total community (pooled data from all stations) sampled during the operational monitoring.

The secondary components of the phytoplankton assemblages collected in 1976-1978 showed consistent patterns. The density of phytoflagellates, which were second in total abundance, peaked during the warmer months. The inverse relationship in peak occurrence of diatoms and phytoflagellates was noted by Smayda[28], and was attributed to group-specific temperatures required for optimum growth. The green algae exhibited slightly increased relative importance in May 1976, June 1977 and July 1978, but were not numerically dominant throughout the sampling years. The Pyrrophyta, Cryptophyta, Prasinophyceae, and Cyanophyta showed generally higher relative abundances in 1977 and 1978, as compared to 1976, but represented minor components of the phytoplankton community throughout the monitoring program.

2.2.2.1.2 Temporal Variations

Phytoplankton densities in the marine environment off Hutchinson Island are characterized by seasonal and annual fluctuations. Because of the ephemeral and transitory nature of phytoplankton, differences between years and seasons reflect the natural variability resulting from the dynamics of the nearshore environment and the inherent patchiness of phytoplankton distributions. The extreme disparity between cell densities recorded in the baseline studies and those observed during the operational monitoring (Table 2.2-7) are thought to reflect differences in sampling techniques. The chorophyll a concentrations from the two programs were measured by similar techniques and reflected consistent values from the two periods of sampling.

a) Among Years

Analysis of variance in cell densities from the three years of operational monitoring samples (Table 2.2-9) indicated that surface and bottom densities were greater in 1976, than in 1977 or 1978.

Although cell densities from 1977 surface samples were comparable to 1978 surface samples, cell densities from 1978 bottom samples were significantly greater than densities found in samples collected from bottom waters in 1977. Concentrations of chlorophyll a (surface and bottom) were greater in 1976 than in 1977 and concentrations from bottom samples collected in 1978 were significantly greater than concentrations in bottom samples collected in 1977. Chlorophyll a concentrations collected in surface and bottom samples from 1976 and 1978 were not significantly different. Phaeopigment concentrations in the 1976 bottom samples were also significantly greater than those found in the 1977 and 1978 bottom samples. Phaeopigment concentrations from 1976 surface samples were significantly greater than bottom samples collected in 1978. Because chlorophyll a is ubiquitous, and because phaeopigments are the ultimate form of degraded chlorophyll, consistent trends in cell density and these two pigments are not unusual.

Productivity estimates, calculated from the concentration of chlorophyll a and light transmittance data as proposed by Ryther and Yentsch[23], showed a mean value of o.49, 0.33, and o.42 g C/m^2/day in 1976, 1977, and 1978, respectively. Although this method of estimating productivity has a precision of $\pm$ 25 percent[24] the calculated mean annual productivity estimates (179 g C/m^2 in 1976, 121 g C/m^2 in 1977, and 156 g C/m^2 in 1978) all fall within the range of values expected from a nearshore environment[25]. The apparent higher productivity in 1976 may have resulted because only productivity estimates from March through November were used. Samples were not taken in January and February 1976 and these months tend to have low productivity rates (App. Table 2.2-4).

These variations in cell density, pigment concentration and productivity estimates among the years of study are similar to population changes observed in subtropical ecosystems which are not adjacent to power plants[26,27]. Changes in these parameters over time are considered to reflect the natural variability within phytoplankton populations.

b) Within Years

Phytoplankton populations observed in 1971-72, 1976, 1977, and 1978 all exhibited peak periods of abundance in late fall (October-November). Secondary peaks were observed in the baseline year of sampling, in 1976 and 1978. The secondary peaks varied in the month of occurrence - January 1972, March 1976, and May 1978. These variations in month of peak occurrence and unimodal versus bimodal abundance have also been observed in other subtropical environments, e.g., Tampa Bay[26] and Indian River[27].

2.2.2.1.3 Spatial Variations

Differences in cell densities between depths and among stations were observed throughout the sampling program. Cell densities measured in bottom samples were generally greater than surface densities at all stations, during all sampling periods. Concentrations of chlorophyll a and other pigments (App. Table 2.2-2 and 2.2-3) exhibited the same pattern. This trend was most pronounced in the case of phaeopigment, reflecting the continuous rain of dead phytoplankton to the bottom and subsequent resuspension of the material induced by bottom currents, a finding also reported by Roman[29] for Buzzard's Bay, Massachusetts.

Stations which exhibited significantly different concentrations of chlorophyll a and cell densities changed from year to year and varied between surface and bottom samples. Generally, nearshore stations (0 and 1) exhibited increased all density and chlorophyll a concentrations as compared to offshore stations (2-5), particularly the shoal station (3) (Table 2.2-8).

Although data analyzed for the three year period showed enhanced cell densities and concentrations of pigments at Stations 0 and 1 (Table 2.2-9), significant changes in the density of diatoms, the predominant component of the phytoplankton community, were not observed. However, some changes in the densities of some minor components were found to be significant in the 1978 data. Significant differences in the densities of prasinophytes, cryptophytes and unidentified phytoflagellates were found when these data from the control and/or discharge station samples were compared to data from offshore stations[22] samples. However, when the densities of the same taxa in samples from the discharge and control stations were compared no significant differences were found. Therefore, the differences in densities of the minor species could not be directly attributed to plant operation and are considered to reflect natural differences between the nearshore and offshore stations.

2.2.2.1.4 Factors Associated With Temporal and Spatial Variations

Results presented above suggest that phytoplankton are most abundant at the nearshore stations. These increases may be caused by increased availability of nutrients and light throughout the water column, characteristics associated with nearshore environments. The physical attributes of water masses are known to effect the growth of phytoplankton. However, it is unlikely that any single physical parameter caused the increased abundance of phytoplankton observed at the nearshore stations. Therefore, multiple regression analyses were used in an attempt to explain the variance in phytoplankton densities and chlorophyll a concentrations vis-a-vis physical parameters of sample water (Table 2.2-8). Analysis of the 1976 and 1977 data (Mar 1976 - Dec 1977), variance in temperature (T), nitrate (NO_3) and ammonia (NH_3) accounted for 26.7 percent of the variance in offshore cell densities whereas, for the same period, variance in T, NO_3, nitrite (NO_2) and silicates (SiO_2) explained 47 percent of the variance in offshore chlorophyll a concentrations. In 1978, 50 percent of the variance in surface cell densities could be explained by variance in T, salinity (S), dissolved oxygen (DO), NO_3, NO_2 and NH_3; variance in T, DO, NO_3, NO_2, NH_3 and SiO_2 accounted for 55 percent of the variation in surface chlorophyll a concentrations. Bottom densities of cells in 1978 were correlated with T, DO, NO_3, NO_2, NH_3 and orthophosphate (PO_4), explaining 47 percent of the variation, whereas basically the same variables (T, S, NO_3 and PO_4) explained only 29 percent of the variance in chlorophyll a concentrations in bottom samples.

It is clear that the above variables bear some relationship to phytoplankton productivity. Nearshore stations generally have higher phytoplankton densities. Standing crop in the canals is consistently higher than that observed offshore. Therefore abundances at Stations 1 (near the St Lucie Unit 1 discharge) could be increased due in large part to discharge of phytoplankton from the canals.

2.2.2.2 Zooplankton

Results from the baseline and St Lucie Unit 2 preoperational monitoring sampling programs are summarized in Table 2.2-10. Data collected during the three years of monitoring have been analyzed and the results of the among and within year analyses for the three year period are presented in Table 2.2-11. Figure 2.2-8 is a time series of mean (Stations 0-5) zooplankton densities for this period. Appendix 2.2A provides the raw data and tables verifying statistical results used in the summary tables.

The zooplankton collected off Hutchinson Island were primarily composed of neritic (nearshore) forms. The neritic taxa, which prefer relatively warm waters and reduced salinities, normally extend only a limited distance offshore. Conversely, oceanic (open water) forms, which are characteristically holoplanktonic, are independent of their proximity to land and bottom substrates. Oceanic forms occurred rarely and in relatively low abundance in samples from Hutchinson Island waters. The species numerically dominating those oceanic forms collected included siphonophores, euphausids, salps, and certain chaetognaths.

The neritic holoplanktonic forms found most frequently were calanoid copepods (*Paracalanus aculeatus*, *Acartia spinata*, *Labidocera aestiva*, and *Temora turbinata*), chaetognaths, polychaetes, and the sergestid shrimp *Lucifer faxoni*. Cyclopoid copepods were also present and occurred throughout the sampling period. Meroplanktonic forms, which made significant contributions to the neritic community were decapod, echinoderm, gastropod, pelecypod, polychaete larvae and barnacle nauplii. Those organisms considered benthic in nature included nematodes, gammarid and caprellid amphipods and harpacticoid copepods.

2.2.2.2.1 Temporal Variations

Population estimates of sampled zooplankton were based on calculations of density (individuals/m^3) and measurement of biomass (ash-free dry weight/m^3). Density estimates are available from both sampling programs, however, biomass was not measured during the baseline monitoring period. These population estimates differed in their degree of annual fluctuation. Zooplankton biomass estimates from surface and bottom samples exhibited no significant differences between years. However, over the three year operational monitoring, zooplankton densities were significantly greater in 1977 and 1978 than in 1976, in both surface and bottom samples. The range of densities over both sampling programs (17-51, 529 zooplankters/m^3) including the maximum density collected (August 1978; 51,529 zooplankters/m^3) appear normal for nearshore, subtropical water bodies[30,31].

A seasonal pattern of peak zooplankton densities in spring and late summer/fall was apparent in all years of study. The specific month of maximum densities fluctuated, occurring in May 1972, September 1976, March 1977 and August 1978. Secondary peaks were observed in January 1972, July 1977 and October 1978. The lack of a secondary peak in the 1976 data may have been due to the initiation date of sampling. Periods of maximum biomass were observed in July 1976, July 1977 and August 1978. A disparity between the periods of maximum density and maximum biomass is not uncommon and may reflect maturation of the zooplankton population or seasonal influx of larger forms. Periods of seasonal density minima also fluctuated between years and were observed in November 1971, May 1976, December 1977 November 1978. Depressed populations occurring in the spring may reflect heavy grazing pressure exerted by fish larvae while late winter is commonly a period of reduced zooplankton productivity.

2.2.2.2.2 Spatial Variations

Zooplankton density and biomass values were generally greater in bottom samples than surface samples at all stations through all years. Because all samples were collected during the day, this observed trend may be the result of the negative phototactic response of zooplankton. In 1978 (Table 2.2-11), Station 1 surface samples contained significantly greater numbers of zooplankton than samples from Station 3. Surface biomass was significantly greater at the discharge station (Station 1) than at Stations 0, 2, 3 and 4. Pooling data from all three years of sampling confirmed that increased densities and biomass occurred at the discharge station over the three year period (Table 2.2-11).

2.2.2.2.3 Factors Affecting Temporal and Spatial Variations

Correlation analyses showed significant covariance in zooplankton abundance (and biomass) with some water quality parameters (Table 2.2-11). In the data collected from March 1976 - December 1977, significant positive correlation was observed between zooplankton abundance and temperature in surface and bottom samples. The consistently positive correlation with temperature resulted from the pattern of seasonal increases in zooplankton abundance which parallelled increases in ambient water temperatures. Significant negative correlations of bottom zooplankton densities and surface biomass with dissolved oxygen, observed in data from March 1976 through December 1977, may reflect the inverse relationship between temperature and dissolved oxygen rather than a significant effet of dissolved oxygen on zooplankton distribution.

Multiple regression analysis indicated that temperature, salinity, and dissolved oxygen accounted for 34 percent and 42 percent of the variation in surface and bottom zooplankton densities, respectively (Table 2.2-11). Similarly, 17 percent and 14 percent of the variation in surface and bottom biomass was explained by the variance in these parameters. These results complement results from the correlation analyses.

These results reflect the physiological response of zooplankton to ambient water quality. However, because water quality parameters were not significantly different among stations (Section 2.4), these factors cannot totally account for the patchy distribution of zooplankton within the the water column and the observed interstation differences in density and biomass.

As discussed previously, all zooplankton samples were collected during the day. However, diurnal vertical migration of zooplankton to the surface at night, and to the bottom at dawn, is commonly observed. The increased bottom densities of zooplankton observed during the operational monitoring sampling program may reflect this phenomenon. Further, phytoplankton abundances were also consistently greater in bottom samples and the parallel occurrence of zooplankters may reflect their feeding habits.

Similarly, the significantly increased densities of zooplankton found at Station 1 suggest redistribution of zooplankton. However, it is not clear whether the increased zooplankton densities are due to increased productivities or result from migration into an area of higher food levels (Section 2.2.2.1), or both.

2.2.2.3 Macrophytes

Sampling of the macrophytic community off the St Lucie plant was part of the St Lucie Unit 2 preoperational monitoring program, initiated March 1976. Data resulting from this sampling program (through December 1978) are summarized in Table 2.2-12. No macrophyte data were collected during baseline monitoring, which was summarized in the St Lucie Unit 2 Environmental Report - Construction Permit.

Few macroalgae were collected in the St Lucie plant area because of the lack of suitably stable substrates. Macroalgae are primarily epilithic and epiphytic, i.e., growing on rock substrates or other plant life[32,33]. A limited number of large shell fragments found in the trough area (Stations 2, 4, and 5) may provide adequate attachment sites for the holdfast, which fixes the algae to the substrate. However, the scarcity of large rocks or extensive solid substrates in the area minimizes algal abundance. Because the abundance of the collected flora was limited no quantative analyses were performed on the data.

Rhodophytes, including Gracilaria spp, Hypnea spp, and Chondria spp dominated the collections all three years, representing 46 percent and 65 percent of the species collected in 1977 and 1978, respectively. This is consistent with the observed increase in abundance of red algae in tropical areas[32]. Phaeophytes, chlorophytes, and cyanophytes were poorly represented (in number of taxa and density) in collections made off Hutchinson Island.

2.2.2.3.1 Temporal Variations

a) Among years

Approximately 25 species of macroalgae were collected in 1976 and 1977. More than 88 species were collected in 1978. The marked increase in the number of taxa represented is explained by a large influx of drifting algal communities which washed onshore in summer 1978. Drifting algal communities generally contain more algal species than do fixed communities[34]. Although the influx of large quantities of drifting algae could not definitely be associated with storm activity, such influxes are not uncommon in the Hutchinson Island area[35].

b) Within years

Seasonal variations were consistent within each sampling year, with the density and diversity of algal species increasing in the summer and early fall. September was the month of peak abundance in 1976 and 1977. More species were found in September 1978 (54 species) than in 1976 and 1977, but June was the month of peak abundance and diversity in 1978, when 64 species were collected. The algal community was least diverse in winter and early spring (March) in all years.

2.2.2.3.2 Spatial Variations

Differences among stations within years were minor. In 1976 and 1977, there was a tendency toward higher densities and diversity at shell hash stations (Stations 2-5). It is difficult to assess the source of algae collected in dredged samples (i.e., whether they were growing on the substrate or had just drifted over it when sampled), but many of these organisms require hard substrates, and it is suggested that increased densities at shell hash stations were a result of habitat availability. In 1978, more taxa were collected at nearshore stations. In this case, seasonal winds and water currents appear to have caused algae to drift onshore from more permanent sources offshore.

The temporal and spatial oscillations in the macroalgal community off Hutchinson Island observed over the period of operational monitoring appear to be the result of seasonal life history patterns and dispersion by physical forces.

2.2.2.4 Macroinvertebrates

Several factors determine the structure and composition of benthic macroinvertebrate communities. Water depth, chemical quality of water and sediment (e.g., levels of dissolved oxygen concentrations of organic materials) water currents, and food availability from overlying water masses are determinants of density and diversity of benthic communities. In particular, investigators have observed significant correlations between substrate characteristics (median grain size, porosity) and composition of the benthos[36,37]. Therefore, variations in sediments are described before examining spatial and temporal variations evidenced by biological populations resident on or within the substrate.

2.2.2.4.1 Sediment Samples

Sediment characteristics (mean particle size, particle class size distribution, and sorting coefficient) can be used to define three distinct zones in the oceanic area off Hutchinson Island. This zonation was apparent throughout the sampling period of baseline (1971-1973) and operational (1976-1978) monitoring. The zones, which corresponded to distance offshore were defined as: beach terrace, including Station 1 throughout the three year study and Station 0 in 1977 and 1978; offshore trough, including Stations 2, 4 and 5 throughout the study period and Station 0 during 1976; and the shoal area, represented by Station 3. The movement of the control station from the offshore trough area to the beach terrace facilitated comparisons to the discharge station, which is located on the beach terrace.

Beach terrace sediments are composed of fine to very fine, moderately well sorted, gray, nonbiogenic (quartz) sand. Some temporal and spatial variations were observed during the baseline study by Gallagher[38], but the sediments remained relatively homogeneous. Textural changes at Station 1 occurred during 1976, and may have been caused by installation of the plant discharge pipeline for St Lucie Unit 1. These observations are discussed in Section 4.1. Samples collected in 1977 and 1978 reflected baseline conditions.

Offshore trough sediments consisted of poorly sorted, very coarse particles. The sediment type is termed "shell hash" because it is composed almost entirely of broken mollusc shells. Trough sediments were porous, characteristically exhibiting large variations in mean particle size and sorting coefficient. A significant quantity of gravel-size particles (>2.0 millimeters) was typical. Differences in substrate among stations and years could be attributed to changes in the gravel fractions which occurred at Station 5. Samples collected through 1978 indicated that the mean particle sizes of the sediment at the three trough stations remained unchanged from baseline observations.

The substratum at the offshore bar, Pierce Shoal, is well sorted medium sand, composed of calcareous material. Significant textural changes were rarely observed in these sediments. The shoal is formed by strong hydrological processes that continuously sort substrate particles. Continuity through years was the outstanding feature of sediment samples analyzed from this station.

2.2.2.4.2 Benthic Grab Samples

During baseline monitoring, benthic grab specimen analysis was limited to arthropods and lancelets. Therefore, comparisons with data from the operational monitoring programs are limited to these taxa. Results from Mann-Whitney U-Tests (nonparametric test of two samples; Appendix 2.2A) comparing pooled samples (1971-1973 versus 1976-1978) are summarized in Table 2.2-13. No significant differences in lancelet density were observed among stations between the two periods of study. However, significantly greater arthropod densities were observed at Stations 1, 2, 3 and 5 during the period of St Lucie Unit 2 preoperational monitoring. Similarly, diversity in species of arthropods was higher at Stations 1, 2, 4 and 5 in 1976-1978, compared to the baseline.

Descriptive results of the three years of St Lucie Unit 2 preoperational monitoring are summarized in Table 2.2-14. Results from statistical tests applied to grab data are presented in Table 2.2-15. Figures 2.2-9 and 2.2-10 present time series (three years) of density and diversity of macroinvertebrates collected by grab at Stations 0 and 1, and Stations 2-5, respectively.

a) Temporal Variations

The number of taxa and density (individual/meter^2) of organism varied at all stations throughout the year. Generally, variations in organism density were not attributable to seasonal fluctuations of any individual species or group of taxa, but resulted from cumulative fluctuations in large numbers of taxa. This observation is supported by the highly significant correlation found between the number of taxa and density at all stations through the three year period. The single exception to this correlation was observed at Station 3 in spring 1978. Annual maximum density, which occurred at this station, could be accounted for by a large population increase of a single species of mollusc, Crassinella duplinana.

Within year variations in the benthic communities could not be attributed to substrate characteristics, which were homogeneous (within stations). Attempts to correlate seasonal variations and density and species richness (number of taxa represented) with water temperature also yielded variable results. Independent correlation analyses (Spearmen ranks; Appendix 2.2A) of these two community descriptors against ambient water temperature were conducted on the pooled data for March 1976 - December 1978. (The pooled data included all stations except the control station which was moved from the trough area to the beach terrace in March 1977, necessitating its exclusion from the three year comparison). Significant correlation of species richness with temperature and density with temperature were observed at Stations 2, 3 and 4. The lack of significant correlation among these variables at Stations 1 and 5 may be due to the overlap of temperate and tropical patterns of spawning and larval recruitment which results in a continuous supply of young organisms throughout the year, regardless of water temperature.

The Kruskal-Wallis test (nonparametric test between two samples; Appendix 2.2A) was used to examine changes in grab efficiency, number of taxa and number of individuals collected at each station over the three year period. Although no significant changes were observed in the sediments at the beach terrace stations, grab efficiency decreased over the three years. A similar decrease was noted at Station 5; however, this change could partially be explained by the decrease in gravel fraction and increase in medium sand.

Decreases in both the number of taxa and number of individuals collected were observed at the control station. However, these changes were the direct result of moving the control from the trough area to the less rich beach terrace area. (The purpose of this move was to provide a control to compare with the discharge station, also located on the beach terrace). Significant increases in taxa richness were observed at Stations 2 and 4 through the operational monitoring. Samples from Station 5 exhibited significant increases in both species richness and density. These stations (Stations 2, 4 and 5) contained the more diverse communities found in the site area, and annual variations may simply reflect natural population variability.

Rarefaction curves[39], which plot the number of taxa collected against the number of individuals collected, were also used to examine changes through years at individual stations (Appendix 2.2A). These figures suggest that Stations 3 and 4 were most similar within the three years of study, while variability in the benthic community at Station 5 was indicated by greater discrepancy in these plots among years. Stations 0, 1 and 2 exhibited intermediate year to year continuity. These observations corroborate the results of Kruskal-Wallis tests among year comparisons and suggest that the site area was characteristically variable and exhibited few apparent long term changes.

b) Spatial Variations

The Morisita Index[40] of community similarity was used to make interstation comparisons. This index compares the abundance of shared taxa among stations and the total density and diversity of organisms among stations and establishes a factor of interstation faunal similarity. Although the degree of interstation similarity (as derived from grab sample data) fluctuated through the years, the same basic groupings which corresponded to the substrate groupings prevailed throughout the period of operational monitoring.

Substrate at the deeper water, offshore trough stations (Stations 2, 4, and 5), consisted of heterogeneous, porous, shell hash sediments which are well oxygenated and provided microhabitats capable of supporting highly diverse fauna. Biomass levels, densities, and number of represented taxa were consistently higher at these stations than nearshore or shoal stations. Annelid species (worms) dominated (over 50 percent) other groups. Sipunculids, molluscs, and arthropods generally represented less than 17 percent of the groups at these stations. Echinoderms and lancelets generally comprised an even smaller percentage, usually less than six percent.

The tightly packed, homogeneous sands, found at the nearshore beach terrace stations (Stations 0 and 1) limited the number of species which could successfully exploit the environment. The sands are transitory and continually perturbed by surface water action. Consequently, community parameters describing the benthic fauna collected here were low in comparison to the remaining stations. Annelids dominated the species collected, but to a lesser extent than that observed at the trough station (approximately 40 percent). Arthropods were secondarily dominant at both beach terrace stations, with a large component of nemerteans represented at Station 1.

The homogeneous, well sorted sands, characteristic of the shoal station, contained no hard shells, but good porosity provided sufficient supplies of oxygen and food to support a comparatively diverse macroinvertebrate community. Molluscs were the major group of individuals collected (approximately 70 percent). This high dominance was primarily due to the recruitment of juvenile C. duplinana in 1976 and 1977. Annelids and arthropods were the second and third most frequently collected groups, respectively, at this station.

2.2.2.4.3 Trawl Samples

Data from trawl collections made during the St Lucie Unit 2 preoperational monitoring program are summarized in Table 2.2-16. Results of statistical analyses of the pooled data (1976-1978) are presented in Table 2.2-17 and utilized in the following discussion. Total numbers of macroinvertebrates collected by trawling through the three year period of study are presented in Figure 2.2-11.

a) Temporal Variations

Community descriptors derived from the trawl data exhibited little fluctuation through the period of St Lucie Unit 2 preoperational monitoring. The site area exhibited slightly increased species richness (number of taxa collected) over the three years when data from all stations were pooled (156, 164 and 182 taxa were collected in 1976, 1977, and 1978, respectively). These variations, in all probability, reflect the difference in sampling effort among years (ten months in 1976 versus 12 months in 1977 and 1978) and natural variation within benthic populations.

Similarly, no significant differences in species richness were observed through the three years of study at individual stations, when data were compared by Kruskal-Wallis tests. Mann-Whitney U-Tests applied to the same data indicated a slight increase in the number of species in samples collected at the control station in 1978. In this year, 50 percent of the organisms collected were trawled in the month of August. This increase in the number of individuals and the number of taxa collected was the direct result of the large influx of drift algal communities with associated macroinvertebrates (Section 2.2.2.3). Whittaker dominance-diversity graphs[41], which plot the number of individuals versus the rank of individual species (based on species abundance), indicate that Stations 1 and 2 were consistently dominated by a few species throughout the study period, and that Station 5, where species were more equitably distributed, showed consistent patterns of dominance through the three year period. The control station, characteristically more diverse with increased equitability (relative distribution or dominance), exhibited an increase in the dominance-diversity patterns, resulting from the influx of drifting algal communities. Station 4, generally dominated by only a few species, exhibited greater diversity in 1978 than in 1976 and in 1977.

Maximum species richness was generally observed during summer months (July-September). Water temperatures peaked in late summer and early fall when associated abundant food sources (phytoplankton, zooplankton, and infauna) could support an increased epifaunal population and allochthonous populations of invertebrates associated with drift algae wash ashore (2.2.2.3.1.a). However, two exceptions to this tendency were noted. Species richness was maximal in November 1978 at Station 5. No obvious cause for this variation was evident. In 1977, a drop in the number of taxa was observed at the discharge station (Station 1) during August and September. No comparable reduction was observed at the control station (Station 0) in the same year. The reduced collections at Station 1 might have resulted from the St Lucie Unit 1 discharge; however, this pattern was not observed in 1978, when St Lucie Unit 1 was on line for a comparable period.

McCloskey's Index[42] ranks species by dominance (the number of individuals within each species) and was used to compare species dominance among years. Results from the index indicated that dominant species were not constant from year to year at the shell hash stations 2, 4, and 5 (Table 2.2-17). The reverse was true at Station 0, 1, and 3, where Trachypeneaus constrictus consistently was the dominant species collected. Some commercially important invertebrates were collected by trawl in limited numbers. These organisms, their abundance and commercial importance, are discussed in Section 2.2.2.7.

b) Spatial Variation

Station differences were noted in all years. Collections made at Station 5 consistently contained the greatest number of taxa while Stations 0, 1, 2, and 4 showed intermediate levels of species richness. The shoal station (Station 3) exhibited the lowest numbers of taxa in all years. In 1978, a marked change in epifaunal abundance was observed at Station 3. In May and June, a large number of juvenile sand dollars, Mellita quinquiesperforata, were collected. This change was considered to reflect the natural process of species migration across the shoal[22]. Station grouping, derived from Morisita indices applied to the trawl data, generally confirmed groupings determined from the grab data. However, changes in species abundance collected in trawls caused changes in the degree of similarities within groups between years. The influx of M. quinquiesperforata at Station 3 in 1978 made this station more similar to Station 4 than in previous years. Increased species diversity at the control station in 1978 created a dissimilarity between the beach terrace stations, which had previously shown great similarity. These changes may have resulted from the influx of drift algae (2.2.2.3.1.a) and have been attributed to natural changes in the benthic community.

2.2.2.4.4 Summary

The benthic community sampled off Hutchinson Island exhibited consistent seasonal trends and station differences throughout the period of operational monitoring. Although no correlation of density and water temperature was evident in the trawl data, the grab data reflected the seasonal effects of bottom water temperatures on infaunal abundance. Station differences, observed in both trawl and grab data, were attributed to variations in substrate characteristics and were consistent through the three years of study. Variations in the number of taxa and individuals collected, and changes in species dominance, are considered to reflect the natural variation of the benthic fauna.

2.2.2.5 Fish and Shellfish

Fish collected in the St Lucie plant area include migratory species (which spend only portions of their lives off the southeast coast of Florida) and resident species. The Atlantic Ocean off southeast Florida is a transition zone (temperate/tropical), where ranges of temperate and tropical species overlap. Many of the fish species which are important to the commercial and sport fisheries have been found off Hutchinson Island.[20-22,43] Life histories of these species have been presented in the St Lucie Unit 2 Environmental Report - Construction Permit. The role played by St Lucie County and Martin County in Florida commercial and sport fisheries is described in Section 2.2.2.7.

Results from the baseline monitoring program have been discussed in Section 2.7 of the St Lucie Unit 2 Environmental Report - Construction Permit and are summarized in Table 2.2-18. Forty-two hours of sampling effort (33 and 9 hours of offshore trawl and beach seine sampling, respectively) collected 75 species of fish. Over 250 species of fish were collected during the three years of St Lucie Unit 2 preoperational monitoring. Sampling methods included beach seining, offshore gill nets, and bottom trawls. The results from each sampling method are presented and incorporated into a summary description of the fish populations found in the St Lucie plant area.

2.2.2.5.1 Beach Seine

Three areas of the nearshore environment were sampled by beach seine: Station 6, north of the discharge; Station 7, between the intake and discharge canals; and Station 8, south of the intake canal. Results of the three year beach seine St Lucie Unit 2 preoperational monitoring sampling program are summarized in Table 2.2-19.

a) Temporal Variation

The number of fish collected by beach seine over the three year sampling program fluctuated, with 1,211 finfish collected in ten months of sampling in 1976, and 819 and 1,203 finfish in 12 months of sampling in 1977 and 1978, respectively. The only shellfish collected were speckled crabs which were collected in small numbers (77, 51 and 54 speckled crabs in 1976, 1977 and 1978, respectively). Largest catches from beach seines occurred in September of 1976 and 1977, whereas in 1978 catches were largest in July. The variation and number of fish collected in peak periods of abundance are thought to result from natural variations in fish populations and the chance occurrence of schooling species in the sampled area.

Certain species were consistently dominant from year to year in beach seine samples. However, relative abundances changed among years. Anchovy and herring accounted for over 55 percent of all fish collected in 1976, but only 28 percent and 29 percent of fish collected in 1977 and 1978, respectively. No single species dominated in 1977 or 1978, and codominance of herring, kingfish, and sand drum occurred in 1977, with codominance of the same species plus spot occurring in 1978. Anchovy and herring are schooling species and, therefore, exhibit patchy spatial distributions. Observed changes in relative abundance of these species are thought to be the function of natural variations and schooling behavior, which affects ease of capture.

b) Spatial Variation

Interstation comparisons showed that samples from the northern station (Station 6) contained more fish than samples from the south stations (Stations 7 and 8) in 1976 and 1977. Analysis of variance showed this difference to be statistically significant in 1977. No significant differences were observed among stations in 1978. Combining all three years, 45.1 percent of the total catch was seined at the north station, while mid and south stations comprised 29.0 percent and 25.9 percent of the catch, respectively. The increased abundance at the north station may have been a sampling artifact, resulting from a smoother bottom at this station, facilitating efficiency in sampling.

2.2.2.5.2 Offshore Gill Nets

Results of offshore gill net samples collected during the three years of St Lucie Unit 2 preoperational monitoring are summarized in Table 2.2-20.

a) Temporal Variation

Annual trends in seasonal abundance and species dominance were consistent during the three years of operational monitoring. Seasonal peaks in abundance regularly occurred in the late fall (October/November). However, a secondary peak was observed in January 1977, attributable to a large influx of bluefish into the site area. Spanish mackerel and bluefish (92 percent of annual catch were captured in January) collectively accounted for over 60 percent of all fish captured by gill net in 1977. Although landings data are not yet available, increased commercial activity, particularly increased mackerel catches, was observed in 1977[21]. In 1976 and 1978, jacks, including Atlantic bumper, blue runner, and crevalle jack, dominated the gill net samples, constituting 66.7 percent and 71.0 percent, respectively of all fish collected with this sampling gear. Spanish mackerel, bluefish, and jacks school in large groups, and are caught, are usually captured in large numbers[20-22]. Shellfish were rarely captured with this gear.

b) Spatial Variation

Differences in numbers of fish captured by gill nets at different stations were noted throughout the study period. In general, nearshore stations (Stations 0 and 1) yielded higher fish captures with this gear type. Differences in numbers of fish captured among stations were statistically significant in 1978. In this year, catches at the control station (Station 0) were significantly greater than catches from Stations 3 and 4 and catches at the discharge station (Station 1) were significantly greater than all other stations except the control station. The dominant species captured by this gear (bluefish, Spanish mackerel, and jacks) are piscivores and may be attracted to nearshore areas in search of forage species.

2.2.2.5.3 Bottom Trawls

Table 2.2-21 summarizes results of trawl samples collected during St Lucie Unit 2 preoperational monitoring.

a) Temporal Variation

Between year fluctuations in fish populations sampled by trawl were observed over the three year study period. A slight increase in numbers of fish captured by this gear was noted. Periods of peak abundance were inconsistent and occurred in May 1976, November 1977, and September through November 1978.

Bottom trawling selects for bottom fish. Predominant fish collected by this gear included flatfish, cusk eels, drum, and sand perch. Relative abundances were similar in the three years, with the exception of an increased representation of sea trout in 1977 (29.6 percent relative abundance). However, this increased relative abundance was the result of a single catch of 606 individuals in November. No single species dominated in either the 1976 of 1978 collections although anchovy appeared in large numbers in 1978 (18.3 percent relative abundance). This observation is partially explained by the schooling behavior of anchovy, resulting in large catches when they are collected.

Numbers Versus Biomass

Species which were dominant numerically were not those which dominated samples by weight. For example, in 1978, anchovy were most abundant numerically (18.3 percent relative abundance) with flatfish, sea robin, and scorpionfish and grunts, represented by 12.0 percent 11.7 percent, and 10.5 percent of individuals captured, respectively. By biomass (weight), the following figures were derived: sea catfish (16.8 percent biomass), pigfish (14.2 percent), and snook (10.6 percent). This observation, that the species representing greatest numerical abundance did not coincide with the species accounting for the greatest biomass, was consistent among years, indicating that the majority of fish collected were small organisms.

b) Spatial Variations

Spatial variations were evident in the consistently higher numbers of fish captured at Stations 0, 1 and 5. However, interstation differences were never statistically significant when tested by analysis of variance.

2.2.2.5.4 Summary

The fish community observed off Hutchinson Island as a whole exhibited continuity through the years of operational monitoring. Although the relative abundance of major species collected by each gear type fluctuated among years, species collected (with each gear type) were consistent through the three years. The variation in numbers of fish collected exhibited no single trend of increased/decreased fish abundance. Therefore, variations are considered to reflect the natural variability of the fish species in time and space, and their susceptibility to capture in samples.

The community can be characterized by its association with three relatively distinct environments: the surf zone, the open bottom zone, and the neritic zone which are described by results from beach seine, bottom trawl and offshore gill net gear types, respectively.

The surf zone is characterized by highly turbulent water with a substrate of shifting sand. Few fish were habitual residents in the area: these included the bottom feeding carnivores; drum, threadfin and pompano, which feed on burrowing macroinvertebrates. Other species which were occasionally captured in the area included herring, anchovy, and jacks, are considered to be transients.

The open bottom zone, composed of porous shell hash (see Section 2.2.2.4.1) lacked extensive vegetation, but provided more stable substrate and supported a relatively abundant benthic community. These organisms, in turn, supported a diverse group of bottom feeding fish, including flat fishes (flounder, sole, and tonguefish), sea robins, and cusk eels.

The neritic zone, the open coastal waters beyond the surf zone and above the open bottom zone, supported the majority of fish species found in the St Lucie area. The waters off Hutchinson Island are subject to intrusion of Indian River estuarine waters, and influxes from the oceanic waters of the Florida Current, resulting in a high diversity of fish species, including species which are important components of commercial and sport fisheries.

2.2.2.6 Ichthyoplankton

Currently available data from the St Lucie Unit 2 preoperational monitoring ichthyoplankton sampling program formed the basis of the following description of ichthyoplankton assemblages found off Hutchinson Island[20-22]. These data are summarized in Tables 2.2-22 and 2.2-23 for fish eggs and larvae, respectively. Figure 2.2-12 presents mean density of fish eggs and larvae (Stations 0-5) as a continuous time series over the three year period of study.

2.2.2.6.1 Fish Eggs

Egg densities ranged from $0-88/m^3$, $0-98/m^3$, $0-169/m^3$ in 1976, 1977, and 1978, respectively. Erratic variations in egg abundance are in part related to the range overlap of temperate and tropical species which spawn at different times and temperatures. However, peak abundances consistently occurred in the spring and early summer months.

When egg density data were pooled by season, significant interstation differences in egg densities were observed. In 1977, pooled data indicated that egg densities at the control station (Station 0) were greater than densities at offshore stations (2 and 5 which exhibited significantly greater densities than samples at stns. 1, 3 and 4) in the summer months (Appendix 2.2A). During the winter of 1978, significantly increased densities were found at Station 1. The control station is farther south than other stations, and the difference in egg densities could be the result of different circulation patterns which occur at this station. The increased abundance in egg densities (1978) collected at the discharge station may reflect increased spawning in the warmer discharge water or may have been coincidental[22].

Egg densities were not well correlated with physical parameters measured in this monitoring program (Appendix 2.2A). In 1976 and 1977, a significant negative correlation was found between egg densities and temperature. Maximal egg abundance occurred in March 1976 and February 1977. Because egg densities were apparently independent of plant operating mode[20,21], this correlation was considered to reflect the seasonal trend of increased egg densities in the cooler months of the year. There was no significant correlation between temperature and egg density in 1978, when maximum egg densities were observed in the spring and early summer. A significant positive correlation between egg density and dissolved oxygen was observed in all three years. However, the correlation was considered coincidental because dissolved oxygen concentrations were not limiting at any time during the three years of study[20-22]. In 1977, a negative correlation between egg density and turbidity was observed, but could not be explained. In 1978, egg densities were correlated positively with salinity. However, a stepwise regression model applied to the 1978 data, using the physical parameters of salinity, dissolved oxygen, and temperature as independent variables, explained little of the variation in egg densities (19 percent) and, therefore, had low predictive value (Appendix 2.2A).

2.2.2.6.2 Fish Larvae

Table 2.2.23 summarizes fish larvae collections from the three year St Lucie Unit 2 preoperational monitoring program[20-22]. Larval densities fluctuated through each individual year, ranging from $0-7.9/m^3$, $0-8.6/m^3$, and $0-11.0/m^3$ in 1976, 1977, and 1978, respectively. The mean densities were $0.64/m^3$, $0.70/m^3$ (arithmetic) and $0.42/m^3$ (geometric) over the same years. Larval densities were greater in samples collected in 1977 than in those collected in 1976 and 1978, despite the decreased densities of eggs collected in 1977 (Figure 2.2-12). The increased abundance resulted from increases in a large number of taxa and could not be attributed to a single family group. Clupeiform larvae, including larval herring and anchovy, dominated the collections in all three years and accounted for 29.8 percent, 64.9 percent and 61.6 percent relative abundance in 1976, 1977, and 1978, respectively. The second most abundant family was Gerreidae in all years. This family includes mojarra larvae and accounted for 19.5 percent, 6.3 percent, and 7.6 percent relative abundance in the collection made in 1976, 1977, and 1978, respectively.

Interstation differences which occurred in the three years were inconsistent, and no trend was evident. In 1976, no single oceanic station or group of stations (nearshore versus offshore) had significantly greater densities of fish larvae. Observed differences between stations were attributed to the patchy distribution of fish larvae[20]. In 1977, interstation differences in larval abundance were observed when data were pooled by season. In the winter months (December 1976-February 1977), larval densities at Station 0 were greater than larval abundances found at Stations 2 and 3, which are offshore the discharge. During the fall (September through November 1977), collections made at Station 1 (the discharge station) showed higher densities of larvae than all other stations. These differences could not be attributed to plant operation, and probably reflected the patchy spatial distribution of fish larvae.

In 1978, samples from Station 1 again exhibited higher densities of larvae than samples from all other stations. When 1978 data were pooled by season, the observed difference could be attributed to significant differences between stations during the spring sampling period, indicating that significantly higher densities of larval at Station 1 were found only during the spring. Significant differences in larval densities between stations were not noted in any other season. The increased abundance of fish larvae at Station 1 may have been coincidental, may reflect aggregation resulting from circulation patterns (onshore movement) or may have been related to higher food densities (phytoplankton and zooplankton), also found at Station 1[22].

Variation in densities of fish larvae did not consistently correlate with any physical parameters during the period of study. The 1976 data exhibited a positive correlation of larval density with temperature. However, because temperature differences were not significant between stations, operation of the plant could not explain the correlation. Peak larval densities occurred in April and September 1976. Therefore, the correlation probably reflected seasonal increased in larvae which paralleled increased water temperatures. A significant positive correlation of dissolved oxygen and larval densities was evident in results from larval sampling in 1976 and 1978. However, a significant negative correlation with larval densities was observed in 1977. Dissolved oxygen concentrations were not limiting at any time in the site area, and the significant correlations of larval density with dissolved oxygen concentrations were probably coincidental rather than suggestive of a significant relationship. A stepwise regression model of $\log_n$ larval density (1978 data) with dissolved oxygen and turbidity as independent variables could account for only six percent of the variance in larval densities (Appendix 2.2A).

2.2.2.7 Commercial, Threatened and Endangered, and Rare Species found Offshore Hutchinson Island

2.2.2.7.1 Commercial Species

Florida landing data for finfish and shellfish are summarized in Table 2.2-2[illegible]. The most current summary report available is based on 1976 landing data[47].

In 1976, the dominant commercial finfish species landed in St Lucie and Martin counties were bluefish, king mackerel and Spanish mackerel. These three species accounted for 88 percent of the total catch from St Lucie County (50 percent Spanich mackerel, 34 percent king mackerel and four percent bluefish) and 77 percent of the total commercial catch in Martin County (64 percent Spanish mackerel, 11 percent bluefish and two percent king mackerel). Remaining commercial fish species accounted for five percent or less of total commercial landings.

Spanish mackerel landings from St Lucie and Martin counties represented 39 percent of the total Spanish mackerel landings in the state and 71 percent of the Spanish mackerel catch on the east Florida coast. Bluefish catch in the St Lucie and Martin counties accounted for 42 percent of the total Florida bluefish and 58 percent of the east Florida coast bluefish landings. King mackerel catches landed in these two counties represented 52 and 33 percent of total east Florida coast and total Florida landings, respectively. The exvessel prices of total St Lucie and Martin (1976) catches amounted to $123,339, $1,126,028, $1,231,154, for bluefish, Spanish and king mackerel, respectively.

Life histories of these three species were presented in the St Lucie Unit 2 Environmental Report - Construction Permit, Section 2.7.5.9. All three migratory species overwinter in the southeast Florida area. The northward migration of the Spanish mackerel occurs in the early spring, slightly before the migration of king mackerel. Similarly, bluefish populations peak during winter, before moving northward. The months of peak abundance of these fish as evidenced in commercial fisheries data (winter, early spring) corresponded to peaks in operational monitoring gill net sampling.

The role of St Lucie and Martin counties offshore waters in commercial shellfish catches is minor compared to its importance as major commercial and sport finfishing grounds. Florida shrimp landings are predominantly found along the Atlantic coast as far south as St Lucie inlet and the northwest coast to the Ochlockonee River (white and brown shrimp; Penaeus fluviatilis and P. aztecus), the Tortugas offshore grounds and the Sarasota-Tarpon Springs areas (predominantly pink shrimp; P. duorarum)[48,49]. Consequently, commercial shrimp landings from St Lucie and Martin counties are neglible (Table 2.2-24). Blue crab and spiney lobster were also captured commercially, although the total catch of both species in St Lucie and Martin counties was less than 0.3 percent of the total Florida catch of these species.

2.2.2.7.2 Endangered and Threatened Species

Marine turtles are the only organisms collected off Hutchinson Island which have been listed by U S Fish and Wildlife Service[50] as "threatened" or "endangered," and are discussed in Section 2.2.1.

2.2.2.7.3 Rare Species

A single fish species, the striped croaker (Bairdiella santaelucae), collected off Hutchinson Island has been designated "rare" by the Florida Committee on Rare and Endangered Plants and Animals[51]. The preferred habitat of the striped croaker, in and beyond the surf between Sebastian and Ft Pierce inlets, is just north of the St Lucie site. Over the three years of operational monitoring, 230 specimens have been impinged, all of which were juveniles. In April 1978, three individuals were collected in trawls at the two nearshore stations. However, no specimens have been collected in beach seine sampling. It has been suggested[22] that the St Lucie area is at the southern extreme of the species' range and that the impinged juveniles reflect organisms already lost to the preferred habitat, displaced through longshore currents.

2.2.2.8 Preexisting Stress

Offshore effects of St Lucie Unit 1 operation are observable in samples collected from Station 1 (discharge station) when compared with samples collected at other stations. However, discernible changes are limited to the phytoplankton and zooplankton populations. Observed effects include modification in the relative abundances of minor taxonomic groups of phytoplankton, and increased density of phytoplankton and zooplankton. Differences in the relative abundance of phytoplankton between intake and discharge stations vary in the degree of change through the year. Further, species whose relative abundance increase or decrease change seasonally.

The observed increases in phytoplankton and zooplankton densities at the discharge may result from increased productivity due to increased temperature (phytoplankton) and increased food availability (zooplankton). Additionally, passive displacement of plankton-rich intake canal water (See Section 5.1.3) may also partially explain the increased densities observed at the discharge station.

These changes do not indicate that operation of St Lucie Unit 1 is stressing the offshore environment. The observed changes in species' relative abundance are limited to samples collected at the discharge station and the remaining offshore stations appear unaffected by plant operation. Similarly, increased productivity, which is not necessarily an adverse effect, has been observed only at the discharge station.

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TABLE 2.2-1

VEGETATIVE COMPOSITION OF

FP&L PROPERTY

Vegetation Cover Type	Acres	Hectares	Percent
Mangrove Swamp	750	305	66
Coastal Beach and Dune	49	20	4
Australian Pine	9	4	1
Utility-Developed Land			
St Lucie Unit 1 and 2 Facilities	248	99	22
Disturbed Field and Shrub[1/]	52	21	5
Road and Roadside	24	10	2
Total	1132	459	100

1/ Comprises part of St Lucie Units 1 and 2 fill/borrow area.

TABLE 2.2-2

COVER/ABUNDANCE ESTIMATES FOR PLANT SPECIES OCCURRING IN MANGROVE SWAMP HABITAT

	STATION[1/]												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Water depth (inches)	16	2	0	0	0	2	2	2	2	2	----beach------		
Species[2/]	Cover/Abundance[3/]												
Laguncularia racemosa (white mangrove)	4		2										
Rhizophora mangle (red mangrove)	1	5	4			5	4	7	6	7	1		
Avicennia germinans (black mangrove)		2											
Acrostichum aurium (leather fern)			2		2								
Casuarina sp (Australian pine)			2	4							4	6	4
Sabal palmetto (cabbage palm)			3	4	6								
Schinus terebinthifolius (Brazilian pepper)			3										
Ficus aurea (strangler fig)			3	3	1								
Forestiera segregata (Florida privet)				3									
Eugenia axillaris (White stopper)				3									
Tillandsia usneoides (Spanish moss)				1									
Mastichodendron foetedissium (wild mastic)				1									
Randia aculeata (White indigo berry)				2									
Calophyllum inophyllum					2						1		
Coccoloba diversifolia (tie tongue)					2								
Coccoloba uvifera (sea grape)					2								
Sesuvium portulacastrum													2

1/ Stations approximately 60 feet apart, 33 feet in diameter, and located along a transect in the swamp immediately north of discharge canal.

2/ Nomenclature of Long and Lakela(5); voucher specimens collected for all species except *Sabal palmetto*, and identified at the University of Miami.

3/ 1 = solitary, cover less than 6 percent; 2 = few, cover less than 6 percent;
3 = numerous, cover less than 6 percent; 4 = 6-25 percent cover; 5 = 26-50 percent cover;
6 = 51-75 percent cover; 7 = 76-100 percent cover (Mueller - Dombois and Ellenberg(6)).
All observations recorded January 30, 1979.

TABLE 2.2-3

COVER/ABUNDANCE ESTIMATES FOR DUNE FLORA: AREA OF UNIT 1 DISCHARGE PIPELINE

Species 3/	STATION 1/ 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	COVER/ABUNDANCE 2/																											
Uniola paniculata (sea oats)	4	5	7	7	7	4				6	7	7	5	3														
Panicum rhizomatum (panic grass)						7	7	4																				2
Cassuarina sp (Australian pine)								4	6	3													1	5				
Coccoloba uvifera (sea grape)								1							1					2	3	4	1	1	1			
Cenchrus incertus (burgrass)																	2	2		5	4		2	2	1	5		
Borrichia frutescens (sea daisy)																			2	2			2					
Juncus sp (rush)																					1							
Chamaesyce mesembryanthemifolia (spurge)																							1					
Bare Sand	7	5	3	2	2	2	3	7	4	4	2	2	7	2	2	7	7	7	7	4	7	6	7	7	7	7	7	7

1/ Stations located contiguously along transect perpendicular to coastline. Stations 1-9 occur on the east side of the foredune; transect terminated at FP&L fenceline (road) on west side of foredune. Each station one meter (3.3 feet) square.

2/ See scale presented in Table 2.2-2.

3/ Observations recorded January 30, 1979. Voucher specimens identified at the University of Miami. Nomenclature follows Long and Lakela [5].

TABLE 2.2-4

COVER/ABUNDANCE ESTIMATES FOR DUNE FLORA: AREA OF UNIT 2 DISCHARGE PIPELINE

Species[3/]	STATION[1/] 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	COVER/ABUNDANCE[2/]																	
Opuntia sp (prickly pear)	4																	
Uniola paniculata (sea oats)	1																	
Yucca aloifolia (Spanish bayonet)	1	3	4	6	5	7	5											
Helianthus debilis var debilis (sunflower)		2	1															
Croton punctatus			3															
Serenoa repens (saw palmetto)							6	7	7	7	7	7	7	7	7	7	7	
Cassuarina sp (Australian pine)																		5
Bare Sand	2	7	5	4	5	2	2	2	2	2	2	2	2	2	2	2	2	2

Additional species recorded from other shore transects:

Batis maritima (batis), Vitex trifolia, Myrsine guianensis, Lantana involucrata (lantana), Crotalaria pumila (rattle box)

1/ Stations located contiguously along transect perpendicular to coastline. Stations 1-9 occur on the east side of the foredune; transect terminated at FP&L fenceline (road) on west side of foredune. Each station one meter (3.3 feet) square.

2/ See scale presented in Table 2.2-2.

3/ Observations recorded January 30, 1979 Voucher specimens identified at University of Miami. Nomenclature of Long and Lakela [(5)].

TABLE 2.2-5

MAMMALS OF HUTCHINSON ISLAND
(Abundance proportional to number of "X's")

Species	Abundance, Location Hutch. Island	Abundance, Location Indian River	Habitat
Virginia opossum (Didelphis virginiana)	XXX		Varied types
Short-tailed shrew (Blarina brevicauda)	X		Varied types
Least shrew (Crypotis florida)	X		Fields, wetlands
Eastern mole (Scalopus aquaticus)	XX		Fields, sandy soils
Mississippi myotis (Myotis austroriparius)	XX	XX	Open water, field
Big brown bat (Eptesicus fuscus)	XX	XX	Open fields, buildings
Yellow bat (Dasypterus floridanus)	X	X	Woods
Evening bat (Nycticeus humeralis)	X	X	Trees, woodlands
Florida freetail bat (Tadarida cynocephala)	X	X	Buildings, open areas
Marsh rabbit (Sylvilagus palustris)	XX		Wetlands
Gray squirrel (Sciurus carolinensis)	X		Woods
Rice rat (Oryzomys palustris)	X		Wetlands
Old field mouse (Peromyscus polionotus)	XXX		Sandy fields
Cotton mouse (Peromyscus gossypinus)	XX		Woods
Cotton rat (Sigmodon hispidus)	XX		Fields, shrublands
Wood rat (Neotoma floridana)	X		Woods palmetto
Brown rat (Rattus rattus)	X		Dwellings
Porpoise (Stenella frontalis)		X	Ocean, estuaries
Gray fox (Urocyon cinereoargenteus)	X		Open woods
Raccoon (Procyon lotor)	XXX		Varied types
Mink (Mustela frenata)	X		Wetlands
Spotted skunk (Spilogale ambarvalis)	X		Fields, shrubs, open woods
River otter (Lutra canadensis)	X	X	River borders
Bobcat (Lynx rufus)	X		Forests, swamps
Manatee (Trichechus manatus)		X	Rivers
White-tailed deer (Odocoileus virginianus)	X	X	Varied types

Source: St Lucie Unit 2 Environmental Report - Construction Permit, 1973.

TABLE 2.2-6

LOCAL BIRD SPECIES

Below is a list of bird species that inhabit Hutchinson Island and the site vicinity. Species abundance and seasonal use of the area are indicated as follows:

R = Resident species
1 = Spring
2 = Summer
3 = Fall
4 = Winter

Abundance is given by:

r = Rare:	May not be found in site vicinity each year
o = Occasional:	Present in small numbers each season, hard to detect.
u = Uncommon:	Present in relatively small numbers in appropriate habitat types
c = Common:	Consistently observed; present in substantial numbers
a = Abundant:	Easily observed; present in large numbers.

Species	Abundance and Seasonal Occurrence
Common loon	u-3,4
Horned grebe	u-3,4
Pied-billed grebe	u-R
White pelican	u-4
Brown pelican	(c-a)-R
Gannet	r-4
Double-crested cormorant	c-R
Anhinga	(u-c)-R
Magnificant frigatebird	o-1,2,3,4
Great blue heron	c-R
Green heron	c-R
Little blue heron	(u-c)-R
Cattle egret	(c-a)-R
Reddish egret	o-R
Great egret	(c-a)-R
Snowy egret	c-R
Louisiana heron	c-R
Black-crowned night heron	u-R
Yellow-crowned night heron	u-R
Least bittern	u-4
Wood stork	c-R
Glossy ibis	u-R
White ibis	c-R
Brant	r-4
Snow goose	r-4

TABLE 2.2-6

Species	Seasonal Abundance and Occurrence
Mallard	u-3,4
Black duck	u-3,4
Pintail	u-3,4
Mottled duck	u-R
Green-winged teal	u-1,3,4;
Blue-winged teal	u-1,3,4;o-2
Gadwall	u-3,4
American wigeon	o-1,3;c,4
Northern shoveller	u-1,3,4;
Wood duck	u-R
Ringed-necked duck	u-4
Lesser scaup	(u-c)-4
Hooded merganser	u-4
Red-breasted merganser	c-4
Turkey vulture	c-R
Black vulture	c-R
Swallow-tailed kite	r-2
Coper's hawk	u-R
Red-tailed hawk	u-R
Red-shouldered hawk	u-R
Broad-winged hawk	r-3,4
Bald eagle	u-1,3,4
Marsh hawk	u-1,c-3,4
Osprey	u-1,2;c-3,4
Peregrine falcon	o-4,1,3
Merlin	o-4,1,3
American kestrel	c-3,4
Bobwhite	c-R
Virginia rail	u-1,3-4
Sora rail	c-1,3,4
King rail	r-1,3,4
Clapper rail	u-R
Purple gallinule	o-R
Common gallinule	c-R
American coot	c-1,3,4,r-2
Semipalmated plover	u-1,3,4
Piping plover	r-1,3,4
Wilson's plover	u-1,2,3; o-4
Killdeer	c-R
Black-bellied plover	u-1,3,4
Ruddy turnstone	u-2, c-3,4,1
American woodcock	o-3,4
Common snipe	u-3,4
Spotted sandpiper	u-3,4
Willet	u-1,2,3; c-4
Greater yellowlegs	u-1,4;c-3
Lesser yellowlegs	u-1,4,c-3

TABLE 2.2-6

Species	Abundance and Seasonal Occurrence
Least sandpiper	u-1,3,4
Dunlin	c-1,3,4
Short-billed dowitcher	c-3,4,1
Semipalmated sandpiper	c-1,3,u-4
Western sandpiper	c-1,3,4
Sanderling	(u-c)-3,4,1
Avocet	(r-o)-3,4
Great black-backed gull	(r-o)-4
Herring gull	c-1,3,4
Ring-billed gull	(c-a)-1,3,4
Laughing gull	(c-a)-R
Bonaparte's gull	(r-u)-1;c-3,4
Forster's tern	c-1,3,4
Common tern	(r-u)-3,4
Royal tern	c-R
Sandwich tern	u-c4,3,1,2
Caspian tern	u-c4,1,2,3,4
Black tern	c-3,u-1
Black skimmer	(u-c)-R
Mourning dove	c-R
Ground dove	c-R
Yellow-billed cuckoo	u-1,2,3
Smooth-billed ani	u-R
Barn owl	(r-u)-R
Screech owl	(u-c)-R
Great-horned owl	u-R
Short-eared owl	r-3
Barred owl	u-R
Chuck-wills widow	u-1,2;o-3,4
Common nighthawk	u-1,2
Ruby-throated hummingbird	u-1,3,4;r,2
Belted kingfisher	u-1,2;c-3,4
Common flicker	u-R
Pileated woodpecker	u-R
Red-bellied woodpecker	c-R
Red-headed woodpecker	r-R
Yellow-bellied sapsucker	u-3,4,1
Downy woodpecker	u-1,3,4;r-2
Eastern kingbird	(u-c)-1,3
Gray kingbird	r-1,2
Great crested flycatcher	u-1,2;o-3,4
Eastern phoebe	u-1;(u-c)-3,4
Tree swallow	o-1;a-3,4
Barn swallow	c-1,3
Purple martin	o-1,2,3
Blue jay	c-R
Scrub jay	r-R
Common crow	u-R

TABLE 2.2-6

Species	Abundance and Seasonal Occurrence
Fish crow	a-R
House wren	u-4,1,3
Carolina wren	u-R
Long-billed marsh wren	u-4,1,3
Mockingbird	c-R
Catbird	c-1,3,4
Brown thrasher	(u-c)-R
Robin	c-4
Hermit thrush	u-4
Swainson's thrush	u-1,3
Gray-checked thrush	u-1,3
Veery	u-1,3
Eastern bluebird	(r-u)-4
Blue-gray gnatcatcher	(u-c)-1,3,4
Ruby-crowned kinglet	u-4
Cedar waxwing	o-3,4,1
Loggerhead shrike	u-1,2,3,4
Starling	c-R
White-eyed vireo	(u-c)-R
Solitary vireo	(r-o)-4,3,1
Black-whiskered vireo	(r-o)-1,2
Red-eyed vireo	c-1,3
Black-and-white warbler	u-1,3;c,4
Worm-eating warbler	(o-u)-1,3
Orange-crowned warbler	o-3,u-4
Cape May warbler	c-1,u-3
Yellow-rumped warbler	c-3,4
Parula warbler	(r-o)-4,c-1
Yellow warbler	o-1,3
Black-throated blue warbler	c-1,3
Yellow-throated warbler	o-3,c-4,o-1
Blackpoll warbler	c-1,r-3
Pine warbler	u-R
Prairie warbler	u-R
Palm	o-1,c-3,4
Ovenbird	u-1,3,o-4
Northern waterthrush	o-1,3,4
Common yellowthroat	c-1,3,4
American redstart	c-1,3;r,4
House sparrow	c-R
Bobolink	u-1,3
Eastern meadowlark	u-R
Red-winged blackbird	c-R
Northern oriole	o-4
Rusty blackbird	r-3,4
Boat-tailed grackle	c-R
Common grackle	c-R
Brown-headed cowbird	(u-c)-3,4
Cardinal	c-R

TABLE 2.2-6

Species	Abundance and Seasonal Occurrence
Rose-breasted grosbeak	u-1,3
Indigo bunting	(o-u)-1,3,4
Painted bunting	(o-u)-1,3,4
Pine siskin	r-4
American goldfinch	u-3,4
Rufous-sided towhee	u-R
Savannah sparrow	c-1,3,4
Sharp-tailed sparrow	(r-o)-3,4
Seaside sparrow	(r-o)-3,4
Chipping sparrow	(o-u)-3,4
Field sparrow	r-3,4
White-throated sparrow	r-4
Lincoln's sparrow	r-1,3,4
Swamp sparrow	u-3,4
Song sparrow	o,1;u-3,4

Sources: Modified from St Lucie Unit 2 Environmental Report - Construction Permit, 1973.
References 9 and 10.
Reviewed by Dr. H.W. Kale II, Florida Audubon Society, 1979.

TABLE 2.2-7

SUMMARIZED RESULTS OF PHYTOPLANKTON SAMPLES FROM BASELINE[1] AND ST LUCIE UNIT 1 OPERATIONAL MONITORING PROGRAMS

	Baseline Monitoring Sep 1971 - Nov 1972[1]	Mar-Oct 1976[2]	Jan-Dec 1977[2]	Jan-Nov 1978[2]
Range of Cell Densities	1.0-30,533 cells/liter	282×10^3-9844×10^3 cells/liter	86×10^3-9723×10^3 cells/liter	99×10^3-$24,249 \times 10^3$ cells/liter
Range of Chlorophyll - a Concentrations	0.08-7.7 mg/m^3	0.4-8.97 mg/m^3	0.21-12.2 mg/m^3	0.13-11.26 mg/m^3
Range of Phaeopigment Concentrations		0.0-3.41 mg/m^3	0.01-1.13 mg/m^3	0.0-1.19 mg/m
Primary Peak Period of Abundance (Secondary)	October	October (March)	November	November (May)
Taxa Observed	Bacillariophyta Chlorophyta Chrysophyta Pyrrophyta	Bacillariophyta Chlorophyta Chrysophyta Cryptophyta Cyanophyta Euglenophyta Haptophyceae Prasinophycease Pyrrophyta Xanthophyta Unidentified phyto-flagellates	Bacillariophyta Chlorophyta Chrysophyta Cryptophyta Cyanophyta Euglenophyta Haptophyceae Prasinophycease Pyrrophyta Unidentified phyto-flagellates	Bacillariophyta Chlorophyta Chrysophyta Cryptophyta Cyanophyta Euglenophyta Haptophyceae Prasinophycease Pyrrophyta Xanthophyta Unidentified phyto-flagellates
Dominant Taxa (Mean Annual Relative Abundance	Diatoms	Diatoms (57.5%) Unidentified Phyto-flagellates (32.9%)	Diatoms (42.2%) Unidentified Phyto-flagellates (38.3%)	Diatoms (59.3%) Unidentified Phyto-flagellates (25.0%)
Dominant Organisms	Nitzschia spp. Chaetoceros sp. Bellerochea sp. Thalassionema nitzchioides Skeletonema costatum	Skeletonema costatum	Skeletonema costatum	Skeletonema costatum Nitzschia delicatissima
Range of Productivity Estimates (Annual Rate)		0.14-1.39 g C/m^2/day (179 g C/m^2/year)	0.10-0.70 g C/m^2/day (121 g C/m^2/year)	0.04-2.24 g C/m^2/day (153 g C/m^2/year)
Peak Period of Productivity		July	September	May
Period of Minimum Productivity		May	May	July

[1]Adapted from: Fla Dept Nat Res, Prelim Repts, Feb 1972, Jun 1972, Dec 1972 and Apr 1973.

[2]Adapted from: Applied Biology, Inc. Annual Rept of Biological Monitoring: St Lucie, 1977; 1978; 1979.

TABLE 2.2-8

RESULTS OF SIGNIFICANT STATISTICAL TESTS PERFORMED ON PHYTOPLANKTON DATA FROM ST LUCIE UNIT 1 OPERATIONAL MONITORING (MARCH 1976 - DECEMBER 1978)

	Mar-Oct 1976	Jan-Dec 1977	Jan-Nov 1978
ANOVA	Months: Cell Density Surface: Oct > all other months excluding March Bottom: Oct > all other months, May > March Chlorophyll a Surface & Bottom: Oct > all other months Productivity July May	Months: Cell Density, Conc Chlorophyll a, Surface & Bottom: Nov > all other months Productivity Sept > May	Months: Tests not performed
	Stations: Chlorophyll a Surface: Station 1 > Station 3	Stations: Chlorophyll a Surface: Station 1 > Stations 3 & 4 Cell Density Bottom: Station 1 > Stations 2 & 3 Chlorophyll a & Phaeopigment Bottom: Station 0 > Station 3	Stations: Cell Density Surface: Stations 0 & 1 > Stations 3 & 4 Phaeopigment Surface: Station 1 > Station 5 Cell Density Bottom: Station 1 > Stations 3, 4 & 5 Chlorophyll a Bottom: Station 1 > Station 3 Phaeopigment: Bottom: Station 1 > Stations 2, 3 & 4

	Mar-Oct 1976	Jan-Dec 1977	Jan-Nov 1978
CORRELATION	Chlorophyll a: + with Cell Density Cell Density & Chlorophyll a: + with temperature	Chlorophyll a: (March 1976-Dec 1977) + with Cell Density Bottom: Cell Density, Chlorophyll a & Phaeopigment (March 1976-Dec 1977): + with Phosphate - with Salinity Surface: Chlorophyll a (March 1976-Dec 1977): - with Salinity	Chlorophyll a: + with Cell Density
REGRESSION		Cell Density: Temperature, NO_2 & NH_3 account for 26.7% variance Chlorophyll a: Temperature, NO_3 & NO_2 & Silicate account for 47% variance	Cell Density: Surface: Temperature, Salinity, Dissolved O_2, NO_3, NO_2 & NH_3 account for 50% variance Bottom: Temperature Dissolved O_2, NO_3, NO_2, NH_3 & Phosphates account for 47% variancel Chlorophyll a: Surface: Temperature, Dissolved O_2, NO_3, NO_2, NH_3 & Silicate account for 57% variance Bottom: Temperature, Salinity, NO_2 & Phosphates account for 29% variance

TABLE 2.2-9

RESULTS OF SIGNIFICANT ANOVA PERFORMED ON ST LUCIE UNIT 1 OPERATIONAL PHYTOPLANKTON DATA (POOLED DATA INCLUDING MARCH 1976 - DECEMBER 1978)

Years	Surface Cell Density:	1976 > 1978, 1977
	Bottom Cell Density:	1976 > 1978 > 1977
	Surface Chlorophyll a:	1976 > 1977
	Bottom Chlorophyll a:	1976, 1978 > 1977
	Surface Phaeopigment:	1976 > 1978
	Bottom Phaeopigment:	1976 > 1977, 1978
Stations	Surface Cell Density:	Station 1 > Stations 3 & 4
	Bottom Cell Density:	Station 0 > Station 3
		Station 1 > Stations 3 & 4
	Surface & Bottom Chlorophyll a:	Station 1 > Station 3
	Surface Phaeopigment:	Station 1 > Stations 0, 2, 3, 4 & 5

TABLE 2.2-10

SUMMARIZED RESULTS OF ZOOPLANKTON SAMPLES FROM BASELINE AND ST LUCIE UNIT 1 OPERATIONAL MONITORING PROGRAMS

	Baseline Monitoring[1] Sep 1971 - Nov 1972	Mar-Oct 1976[2]	Jan-Dec 1977[2]	Jan-Nov 1978[2]
Represented Taxa		Annelida Arthropoda (primarily Crustacea) Bryozoa Chatognatha Chordata Coelenterata Echinodermata Mollusca Nematoda Protozoa Rotifera	Annelida Arthropoda (primarily Crustacea) Bryozoa Chatognatha Chordata Coelenterata Echinodermata Mollusca Nematoda Choronida Protozoa	Annelida Arthropoda (primarily Crustacea) Bryozoa Chatognatha Chordata Coelenterata Echinodermata Mollusca Nematoda Nemertina Phoronida Platyhelminthes Protozoa
Dominant Taxa (Annual mean relative abundance)	Copepods	Copepods (57.9%)	Copepods (63 %)	Copepods (62.6%)
Range of Densities	244-12,023 Zooplankters/m^3	31-20,206 zooplankters/m^3	17-28,913 zooplankters/m^3	110-51,529 zooplankters/m^3
Primary Period of Maximum Abundance (Secondary Peak)	May (January)	September	March (July)	August (October)
Period of Minimum Abundance	November 1971	May	December	November
Range of Biomass		0.04-167.5 mg/m^3	0.85-223.5 mg/m^3	0.98-95.5 mg/m^3
Period of Maximum Biomass		July	July	August
Period of Minimum Biomass		June	October	May

[1]Adapted from: Fla Dept Nat Res, Prelim Repts, Feb '72, Jun '72, Dec '72 and Apr '73.

[2]Adapted from: Applied Biology, Inc. Annual Rept of Biological Monitoring: St Lucie, 1977; 1978; 1979.

TABLE 2.2-11

RESULTS OF SIGNIFICANT STATISTICAL TESTS PERFORMED ON ZOOPLANKTON OPERATIONAL MONITORING DATA (March 1976 - December 1978)

	Within Years			Among Years
	1976	1977	1978	1976-1978
ANOVA	Months Density: Sept > other months	Months Density March & July > Jan, May, Oct, Dec	Months Not tested Stations Surface Density: Station 1 > Station 3 Surface Biomass: Station 1 > Stations 0, 2, 3 & 4	Stations Surface Density: Station 1 > Stations 0, 2, 3 & 4 Surface Biomass: Station 1 > Stations 0, 2, 3 & 4 Bottom Biomass: Station 2 > Station 0 Years, Bottom Surface Density: 1977, 1978 > 1976
CORRELATION		Density (Surface & Bottom, Mar 1976-1977: + with temperature Density (Bottom, Mar 1976-1977): - with dissolved oxygen Biomass (Surface, Mar 1976-1977): + with temperature - with dissolved oxygen		
REGRESSION		Surface Density (Biomass): 10.3% (10.6%) variance accounted for by temperature, dissolved O_2 and salinity Bottom Density (Biomass): 8.2% (0.7%) variance accounted for by temperature, dissolved O_2 and salinity.	Surface Density (Biomass): 34% (17%) variance accounted for by temperature, dissolved O_2 and salinity Bottom Density (Biomass): 42% (14%) variance accounted for by temperature, dissolved O_2 and salinity (temperature, salinity)	

TABLE 2.2-12

SUMMARIZED RESULTS OF MACROPHYTE OPERATIONAL

MONITORING SAMPLES (MARCH 1976 - DECEMBER 1978)

	1976[1]	1977[2]	1978[3]
Numbers of Species Collected	23	28	88
Dominant Taxa	Rhodophyta	Rhodophyta (46% relative abundance)	Rhodophyta (65% relative abundance)
Period of Maximum Diversity	September	September	June (2^{o} September)
Period of Minimum Diversity	March	March	March
Station Differences	-	-	Diversity nearshore diversity offshore

[1,2,3] Adapted from Applied Biology Inc. St Lucie Plant Operational Monitoring Reports, 1977; 1978; 1979

TABLE 2.2-13

MANN-WHITNEY U-TEST COMPARISONS BETWEEN 1971-1973[1] AND 1977-1978 GRAB DATA
ST LUCIE PLANT

Parameter	Station 1	2	3	4	5
Lancelet density (no./m^2)	NS[2]	NS	NS	NS	NS
Arthropod density (no./m^2)	*increase	*increase	*increase	NS	*increase
Arthropod diversity $\bar{d}$	*increase	*increase	NS	*increase	*increase

[1]Futch and Dwinell, 1977; Camp et al., 1977.

[2]NS = Not significant.
*Significant at p=0.05.

TABLE 2.2-14

SUMMARIZED RESULTS OF ST LUCIE UNIT 1 OPERATIONAL MONITORING DATA:

MACROINVERTEBRATE GRAB SAMPLES[1]

	1976[2]	1977[3]	1978[3]
Range of Number of Taxa Collected (Annual $\bar{X}$ per Station)	24.5-113.5	34.7-152.2	25.0-153.0
Range of Density: Organisms/m^2 (Annual $\bar{X}$ per Station)	556-16140 organisms/m^2	979-17463 organisms/m^2	616-19784 organisms/m^2
Range of Biomass: g/m^2 (Annual $\bar{X}$ per Station)	2.02-30.77 g/m^2	3.88-68.68 g/m^2	1.05-45.45 g/m^2
Range of Diversity Values (Annual $\bar{X}$ per Station)	3.305-4.821	3.473-5.489	3.602-5.331
Equitability (Annual $\bar{X}$ per station)	0.299-0.801	0.400-0.735	0.415-0.888
Quarter of Maximum Density	3rd	1st	2nd
Quarter of Maximum Species Richness	3rd	3rd	3rd
Quarter of Maximum Diversity	4th	1st	2nd
Quarter of Maximum Biomass	1st	4th	3rd

[1]Adapted from Applied Biology. St Lucie Unit 1, Operational Monitoring: Annual Reports, 1977; 1978; 1979.

[2]10 month sampling effort

[3]12 month sampling effort

TABLE 2.2-15

RESULTS OF STATISTICAL TESTS APPLIED TO UNIT 1 OPERATIONAL MONITORING DATA:

MACROINVERTEBRATE GRAB SAMPLES[1]

(Pooled data, 1976 - 1978)

Test	Results			
Kruskal - Wallis[2]	Grab Efficiency: Significant decrease at Stations 0, 1 & 5			
	Number of Taxa Collected: Significant decrease at Station 0			
	Significant increase at Stations 2, 4 & 5			
	Number of Organisms Collected:	Decrease at Station 0		
		Increase at Station 5		
		1976	1977	1978
Morisita Index[2]	Stations Most Similar	2, 4 & 5	2 & 4	2 & 4
Rarefaction Curve[2]	Stations 3 & 4: Most consistent among years Station 5: Most divurgent among years			
Spearman Ranks[2]	Number of Taxa: + Correlation with Density (All Stations)			
	Number of Taxa: + Correlation with Temperature (Stations 2, 3 & 4; Pooled Stations excluding Control).			
	Density: + Correlation with Temperature (Stations 2, 3 & 4; Pooled Stations excluding Control).			

[1]Adapted from Applied Biology. St Lucie Unit 1, Operational Monitoring: Annual Reports, 1977; 1978; 1979.

[2]Description of statistical tests are found in Appendix 2.2A.

TABLE 2.2-16

SUMMARIZED RESULTS OF UNIT 1 OPERATIONAL MONITORING DATA: MACROINVERTEBRATE TRAWL SAMPLES[1]

	1976[2]	1977[3]	1978[3]
Number of Organisms Collected	9040	5923	18,804
Number of Taxa Collected	156	164	182
Period of Maximum Species Richness	August	Summer	July-September
Station of Maximum Species Richness	Stations 0 & 5	Station 5	Stations 0 & 5
Station of Minimum Species Richness	Station 3	Station 3	Station 3
Dominant Taxa	Stations 0, 1, 3: *Trachypenaeus constrictus* Stations 2, 4, 5: Molluscs	Stations 0, 1, 3: *Trachypenaeus constrictus* Stations 2, 4, 5: Molluscs	Stations 0, 1, 3: *Trachypenaeus constrictus* Stations 2, 4, 5: Molluscs

[1] Adapted from Applied Biology Inc., St Lucie Unit 1, Operational Monitoring: Annual Reports, 1977; 1978; 1979.

[2] 10 month sampling effort

[3] 12 month sampling effort

TABLE 2.2-17

RESULTS OF STATISTICAL TESTS APPLIED TO UNIT 1 OPERATIONAL MONITORING DATA: MACROINVERTEBRATE TRAWL SAMPLES[1]

Test	Results
Kruskal - Wallis[2]	Years not significantly different in number of taxa collected at each individual Station.
Mann-Whitney U-Test[2]	In 1978: Increase in species' richness at Station 0 Species' richness at Station 0, Station 1
	1977-1978 Comparison: Increased similarity between Stations 3 & 4 Decreased similarity between Stations 0 & 1
Whittaker Diversity[2]	Stations 1, 2, 3 & 4: Dominated by a few species Stations 0 & 5: More equitable dominance - distribution
	1978: Increased diversity at Stations 0 & 4 No change at Stations 1, 2 & 5

[1] Adapted from Applied Biology Inc. St Lucie Unit 1, Operational Monitoring: Annual Reports, 1977, 1978; 1979.

[2] Descriptions of nonparametric statistical tests are found in Appendix 2.2A.

TABLE 2.2-18

SUMMARIZED RESULTS OF FISH SAMPLING CONDUCTED FOR BASELINE MONITORING (September 1971 - July 1973)[1]

	Beach Seine	Offshore Trawl			Total
Sampling Effort	9 hours	33 hours			42 hours
Period of Peak Abundance					September to November
		Stations 2, 4 and 5	Station 1	Station 3	
Number of Species Collected (% species caught only at this area)	35 (71%)	30 (42%)	29 (38%)	13 (15%)	
Dominant Fish	Florida pompano Gulf kingfish Sand drum Sardines	Leopard sea-robin Lizardfish	Anchovy Lizardfish	Flounder Snakefish	

[1] Adapted from Futch and Dwinnell; Reference 43.

TABLE 2.2-19

SUMMARIZED RESULTS OF BEACH SEINE SAMPLING
ST LUCIE UNIT 1 OPERATIONAL MONITORING (MARCH 1976 - DECEMBER 1978)[1]

	1976[2]		1977[3]		1978[3]	
Number of fish collected	1,211		819		1,203	
Period of Maximum Abundance	September		September		July	
Dominant Fish: Relative Abundance (% Annual Catch)	Anchovy:	13.1%	Anchovy:	7.3%	Anchovy:	0.0%
	Atlantic bumper:	2.3%	Atlantic bumper:	5.4%	Atlantic bumper:	0.1%
	Other jacks:	6.0%	Other jacks:	5.1%	Other jacks:	1.9%
	Florida pompano	3.6%	Florida pompano	2.7%	Florida pompano	2.2%
	Herring:	42.1%	Herring:	20.9%	Herring:	28.3%
	Kingfish:	8.9%	Kingfish:	21.0%	Kingfish:	14.3%
	Mojarra:	0.7%	Mojarra:	9.9%	Mojarra:	23.3%
	Sand drum:	8.7%	Sand drum:	21.1%	Sand drum:	16.1%
	Spot:	8.3%	Spot:	0.0%	Spot:	12.2%
Station Differences	north > south > mid Stn 6 > Stn 8 > Stn 7		Stn 6 > Stn 8*		mid > south > north Stn 7 > Stn 8 > Stn 6	

[1] Adapted from Applied Biology Inc. St. Lucie Unit 1 Operational Monitoring Reports, 1977; 1978; 1979

[2] 10 month sampling

[3] 12 month sampling

* Significance at = 0.05.

TABLE 2.2-20

SUMMARIZED RESULTS OF OFFSHORE GILL NET SAMPLING
ST LUCIE UNIT 1, OPERATIONAL MONITORING (MARCH 1976 - DECEMBER 1978)[1]

	1976[2]		1977[3]		1978[3]	
Number of fish collected	1,734		1,223		874	
Primary Period of Maximum Abundance	October		October		November	
Dominant Fish: Relative Abundance (% Annual Catch)	Bluefish:	5.2%	Bluefish:	27.1%	Bluefish:	1.4%
	Jacks:	66.8%	Jacks:	23.4%	Jacks:	70.8%
	Atlantic bumper:	32.2%	Atlantic bumper:	17.2%	Atlantic bumper	55.1%
	Blue runner:	15.7%	Blue runner:	5.8%	Blue runner:	10.4%
	Crevalle jack:	18.9%	Crevalle jack:	0.4%	Crevalle jack:	5.3%
	Spanish mackerel:	10.3%	Spanish mackerel:	33.3%	Spanish mackerel:	7.0%
Station Differences (Results of ANOVA)	Stns 0 & 1 > Stns 2-5		NS		Stn 0 > Stns 3 & 4* Stn 1 > Stns 2-5*	

[1] Adapted from Applied Biology Inc, St Lucie Unit 1 Operational Monitoring Reports, 1977; 1978; 1979

[2] 10 month sampling

[3] 12 month sampling

* Significance at = 0.05

NS indicates no significant differences among stations.

TABLE 2.2-21

SUMMARIZED RESULTS OF FISH TRAWL SAMPLING
ST LUCIE UNIT 1 OPERATIONAL MONITORING (MARCH 1976 - DECEMBER 1978)[1]

	1976[2]		1977[3]		1978[3]	
Number of fish collected	656		2,048		2,513	
Period of Maximum Abundance	May		November		September - November	
Dominant Fish: Relative Abundance (% Annual Catch)	Anchovy:	2.7%	Anchovy:	1.1%	Anchovy:	18.3%
	Cusk eel:	11.0%	Cusk eel:	2.3%	Cusk eel:	8.0%
	Flatfish (flounder, sole, tonguefish):	19.6%	Flatfish (flounder, sole, tonguefish):	10.7%	Flatfish (flounder, sole, tonguefish):	12.0%
	Grunt:	9.3%	Grunt:	8.7%	Grunt	10.5%
	Sant perch:	13.1%	Sand perch:	6.9%	Sand perch:	3.4%
	Sea robin and scorpion fish:	19.6%	Sea robin and scorpion fish:	8.3%	Sea robin and scorpion fish:	11.7%
	Sea trout:	0.0%	Sea trout:	29.6%	Sea trout:	7.0%
	Other croaker:	2.0%	Other croaker:	12.2%	Other croaker:	4.5%
Station Differences (Results of ANOVA)	NS		NS		NS	

[1] Adapted from Applied Biology Inc, St Lucie Unit 1 Operational Monitoring Reports, 1977; 1978; 1979

[2] 10 month sampling

[3] 12 month sampling

NS indicates no significant differences among stations.

TABLE 2.2-22

SUMMARIZED RESULTS OF FISH EGG DATA FROM ICHTHYOPLANKTON MONITORING PROGRAM, MARCH 1976 - DECEMBER 1978 (APPLIED BIOLOGY, 1977, 1978 AND 1979)

	1976	1977	1978
Number of Samples Collected	450	400	370
Period of Peak Abundance	March and June	February and April	Spring and Early Summer
Range of Densities	0-87.8 eggs/m^3	0-98.3 eggs/m^3	0-168.5 eggs/m^3
Significant Statistical Tests (at = 0.05)			
ANOVA	Stations: NS	Stations: NS Pooled Data: Stn 0 > Other Stations (Summer)	Stations: NS Pooled Data: Stn 1 > Other (Winter)
Correlation	Negative with T Positive with DO	Negative with T Positive with DO Negative with Turbidity	- Positive with DO Positive with Salinity
Regression			Salinity, Temperature DO and Ind; Egg Density as Dep, r^2 = .19

NS indicates no significant differences.

TABLE 2.2-23

SUMMARIZED RESULTS OF LARVAL DATA FROM ICHTHYOPLANKTON MONITORING PROGRAM, MARCH 1976 - DECEMBER 1978

	1976	1977	1978
Period of Peak Abundance	September and April	January and July	Spring and Early Summer
Range of Densities	0-7.9 larval/m^3	0-8.6 larval/m^3	0-11.0 larval/m^3
Dominant Organisms	Clupiforme; $\bar{X}$ = 29.8%	Clupiforme; $\bar{X}$ = 64.9%	Clupiforme; $\bar{X}$ = 61.6%
	Gerreidae; $\bar{X}$ = 19.5%	Gerreidae; $\bar{X}$ = 6.3%	Gerreidae; $\bar{X}$ = 7.6%
Significant Statistical Tests (at = 0.05)			
ANOVA	Stations: NS*	Stations: NS* Pooled Data, Stations: Winter: Stn 0 > 2&3 Fall: Stn 1 > 2&4	Stations: Stn 1 > 0,2-5 All Others, Pooled Data, Spring: Stn 1 > 0,2-5
Correlation	Positive with DO	Negative with DO	Positive with DO
	Positive with DO	Positive with Turbidity	
Regression			DO and Turbidity as ind; larval dens. as dep: r^2 = .06

* NS indicates no significant differences

TABLE 2.2-24

FLORIDA COMMERCIAL FISHERIES DATA

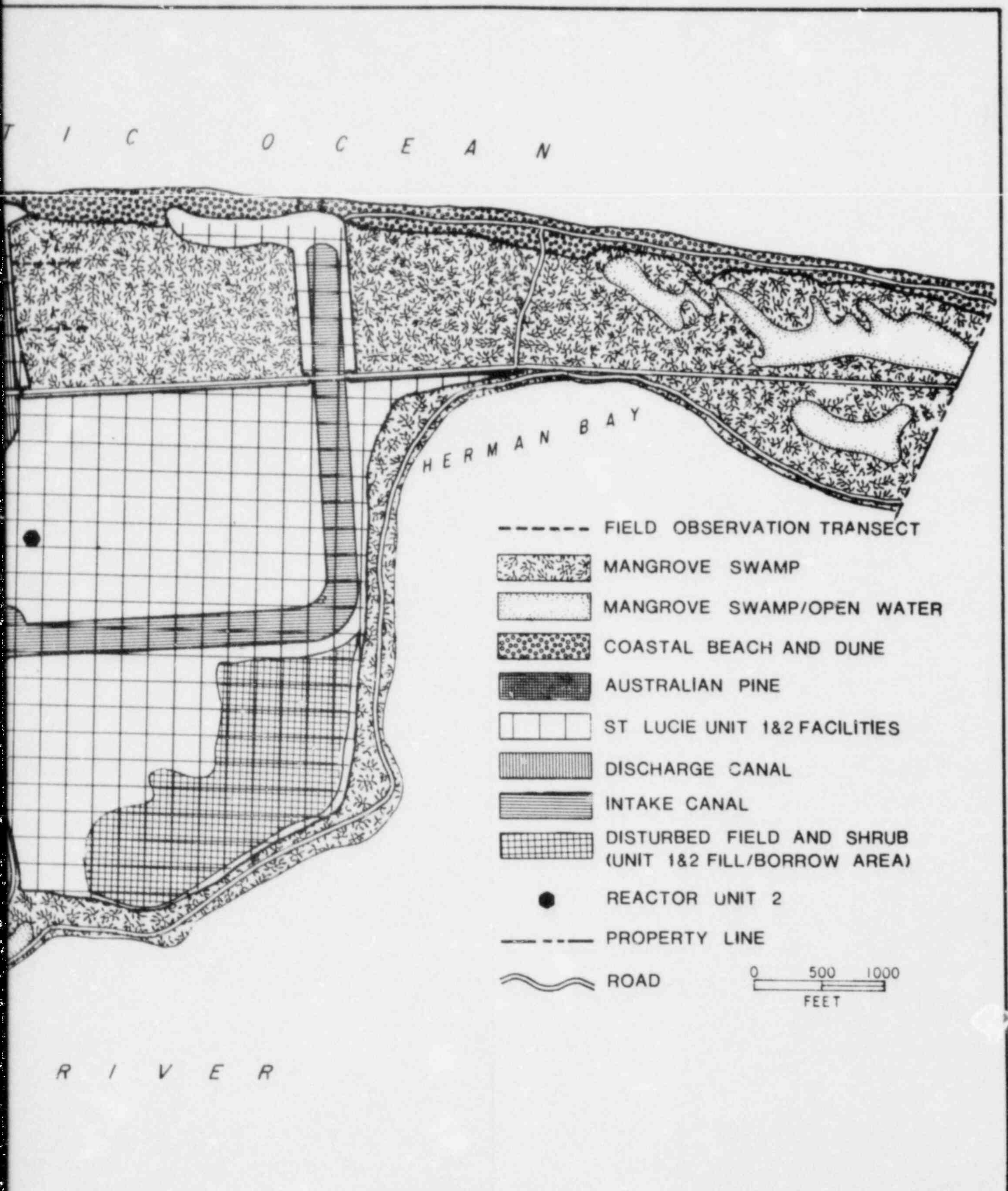
Finfish	East Fla Coast[2]	West Fla Coast[2]	St Lucie Co[2]	% of St Lucie County Landings	Martin County[2]	% of Martin County Landings	% East Fla Coast Catch Landed in St Lucie & Martin Counties	% Total Fla Catch Landed in St Lucie & Martin Counties	Price/Kg[3]
Black mullet	877,314	7,614,637	63,461	2	102,495	5	19	2	$0.36
Bluefish	627,188	239,816	125,705	4	237,057	11	58	42	0.34
Goatfish	43,691	-	600	.01	35,723	2	95	95	0.82
King mackerel	2,191,314	1,273,435	1,093,989	34	43,413	2	52	33	0.99
Mojarra	57,120	60,986	3,851	0.1	47,441	2	90	43	0.29
Pompano	201,938	430,842	44,129	0.1	37,497	2	40	13	2.99
Sheepshead	105,398	118,807	7,337	0.2	45,806	2	50	24	0.33
Spanish mackerel	4,358,440	3,537,654	1,636,766	50	1,441,118	64	71	39	0.40
Shellfish									
Blue crab	1,829,155	5,476,565	1,636	34	-		0.1	0.1	0.37
Shrimp	1,267,356	11,444,997	-	-	-		-	-	
Spiney lobster	448,752	1,981,030	3,116	66	886	100	0.8	0.2	3.53

1 Adapted from: Florida Landings, Annual Summary, 1976 NOAA, NMFS, 1978

2 Kilograms

3 Exvessel Price

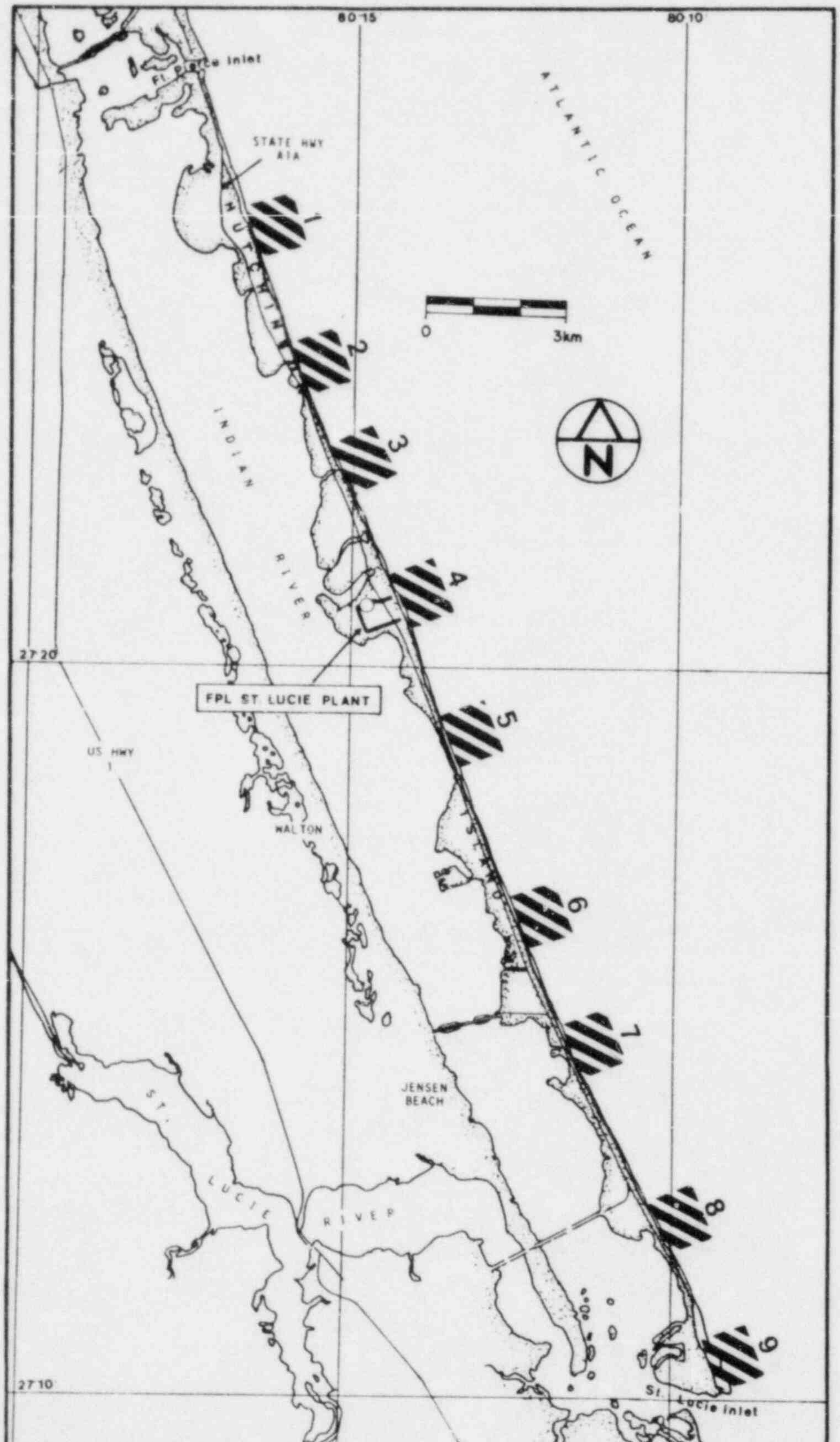
A T L A
BIG MUD CREEK
BLIND CREEK
I N D I A



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

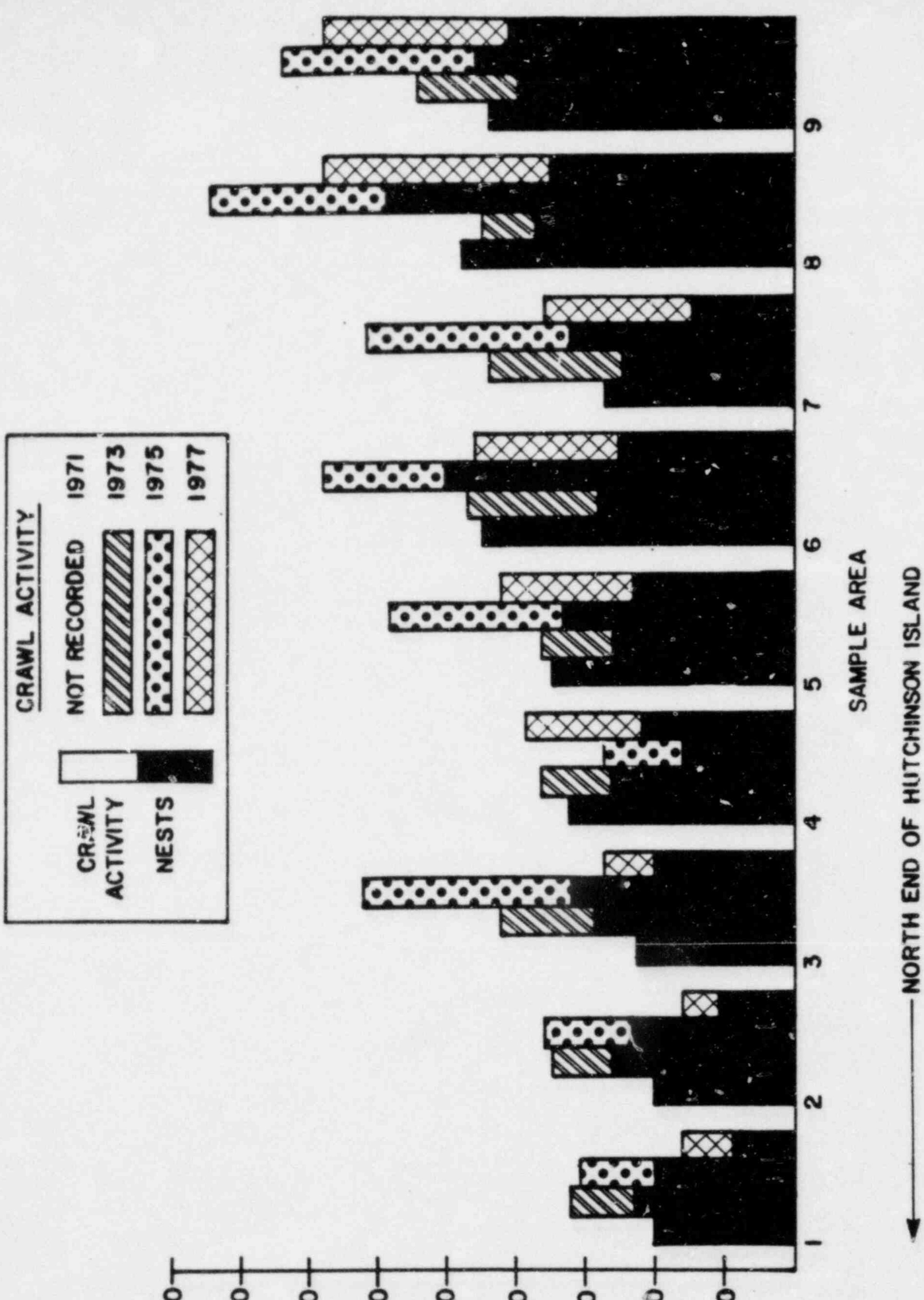
VEGETATION MAP
ST. LUCIE SITE

FIGURE 2.2-1



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

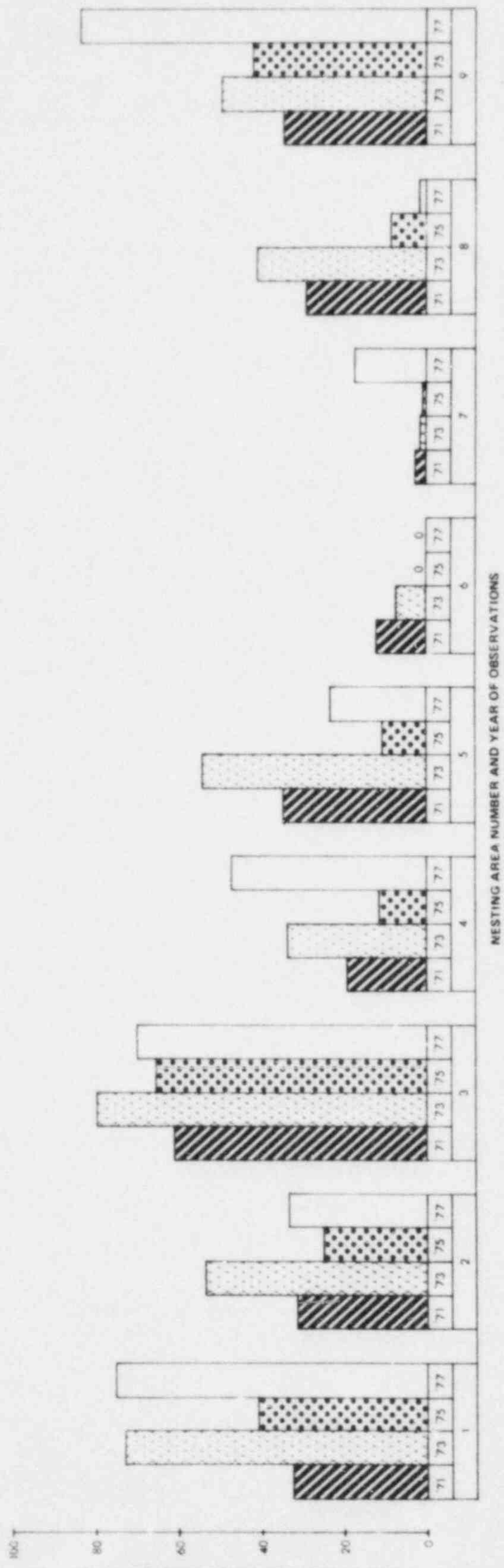
LOCATIONS OF TURTLE SAMPLE AREAS
FIGURE 2.2-2



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

NUMBER OF LOGGERHEAD TURTLE NESTS AND CRAWLS

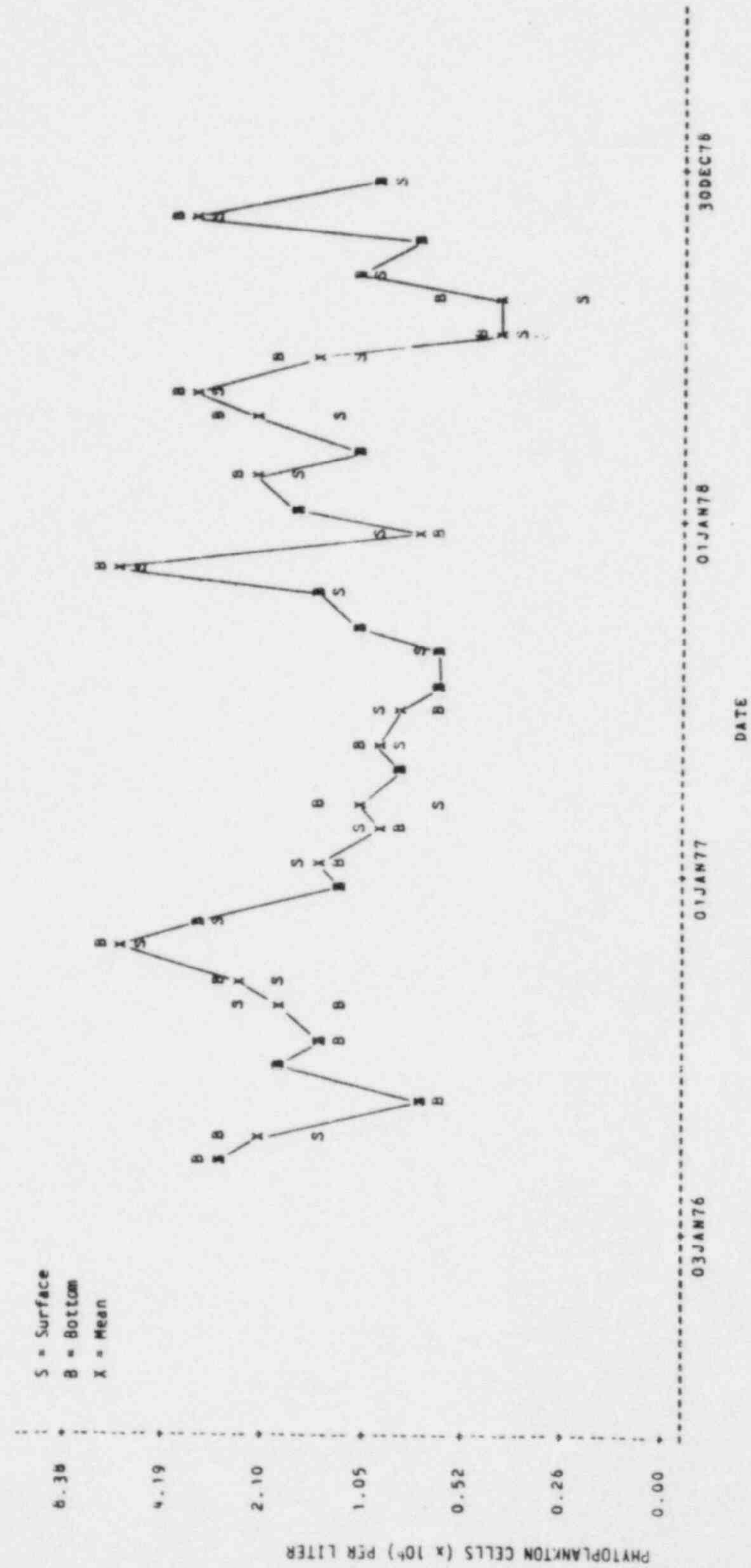
FIGURE 2.2-3



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

PERCENTAGE OF MARINE TURTLE NESTS DESTROYED BY PREDATION

FIGURE 2.2-4



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

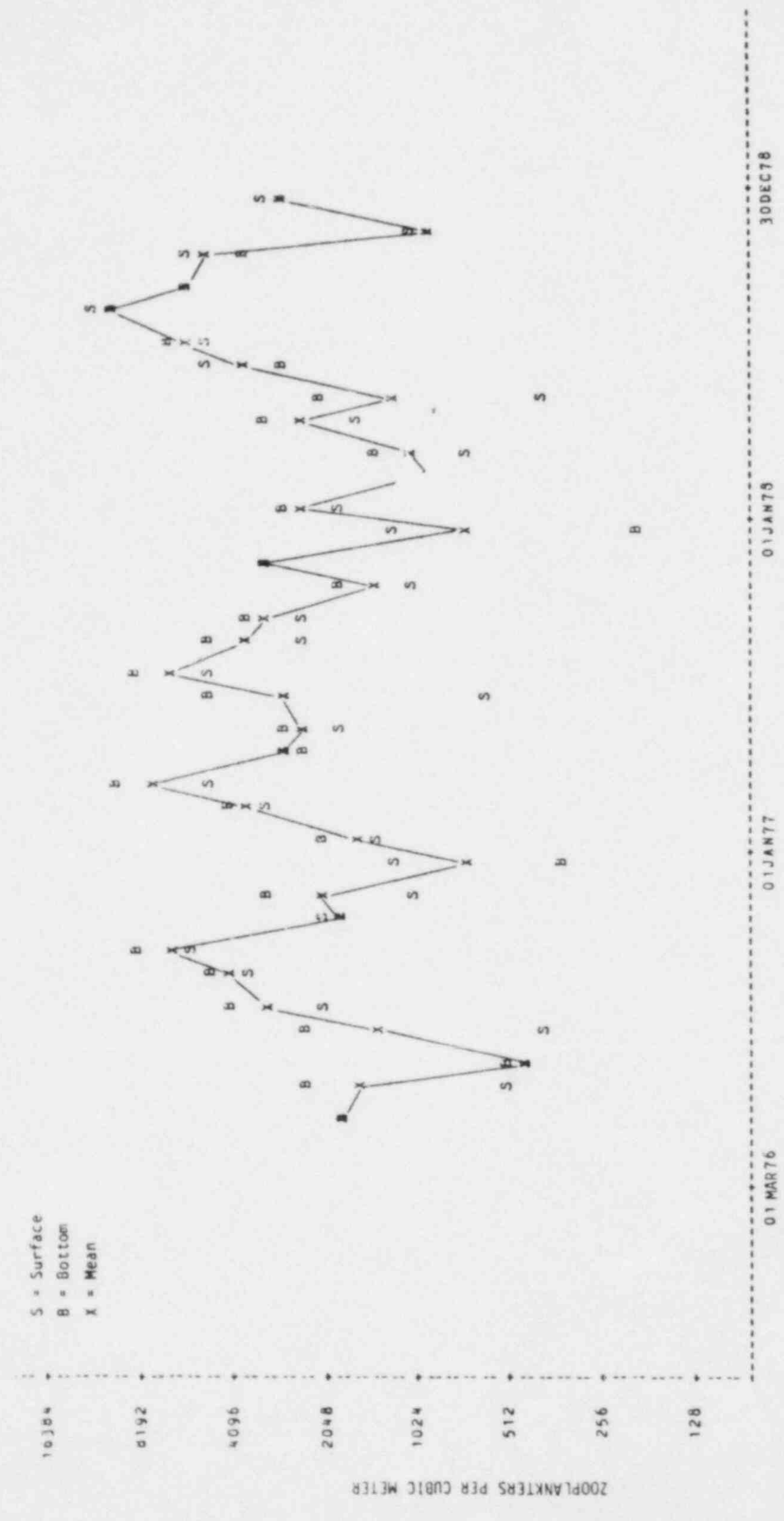
AVG. MONTHLY PHTOPLANKTON DENSITY & MEAN OF SURFACE & BOTTOM OFFSHORE STATIONS
FIGURE 2.2-5

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

COMPARISON OF ANNUAL MEAN PHYTOPLANKTON DENSITY AT OFFSHORE SURFACE STATIONS
FIGURE 2.2-6

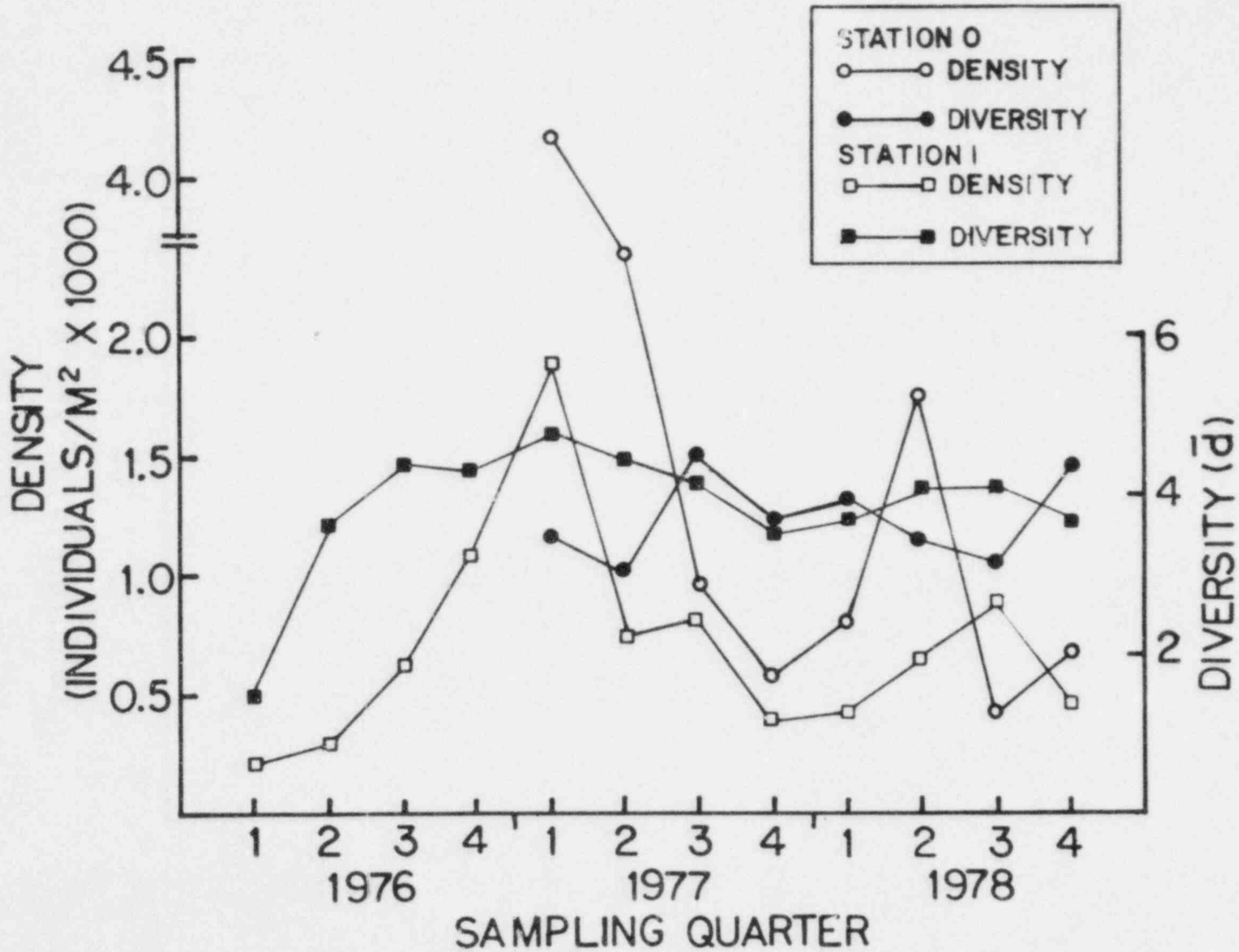
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

COMPARISON OF ANNUAL MEAN PHYTOPLANKTON DENSITY AT OFFSHORE BOTTOM STATIONS
FIGURE 2.2–7



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

AVG. ZOOPLANKTON DENSITY AT OFFSHORE STATIONS
FIGURE 2.2-8

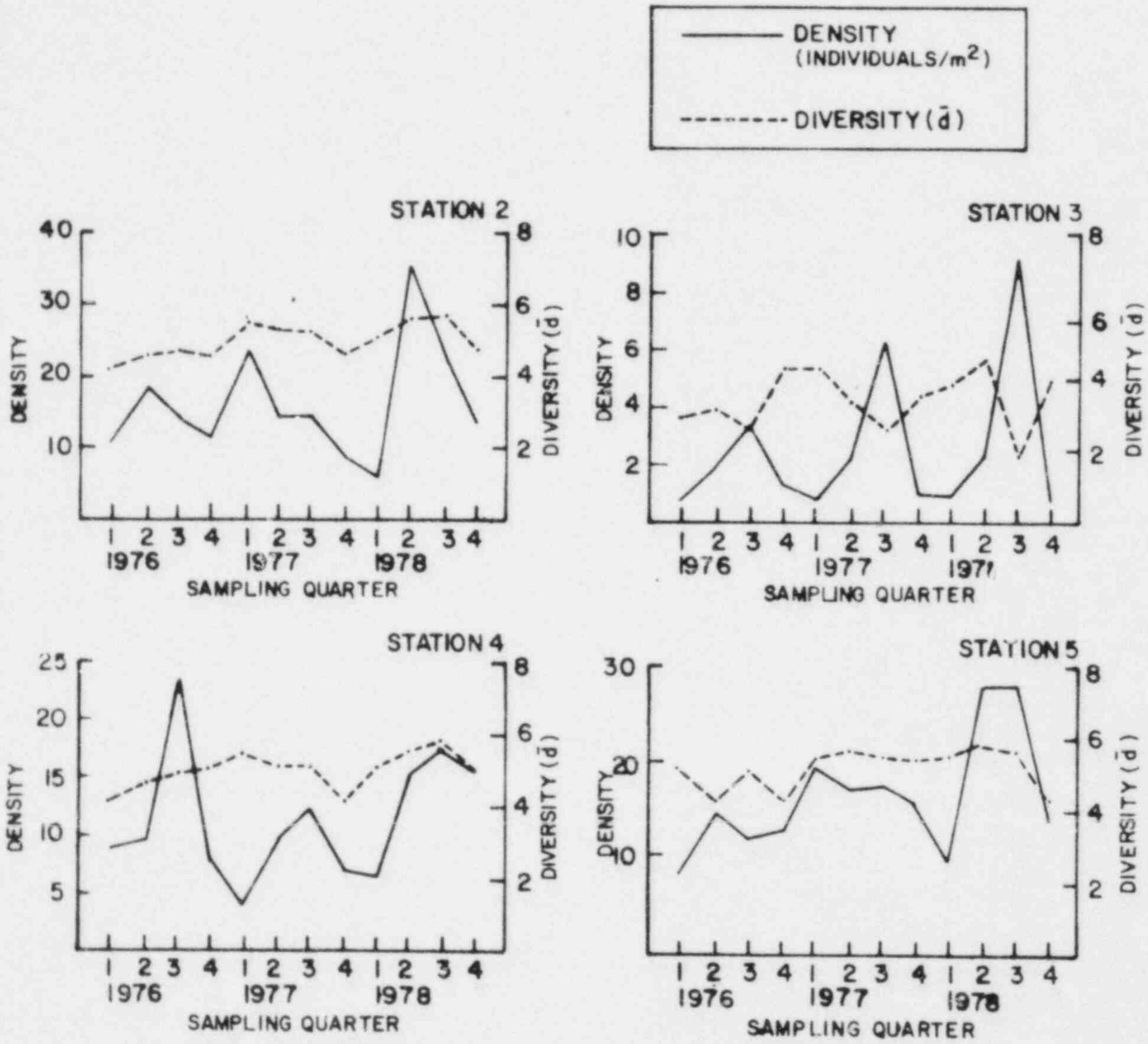


NOTE: STATION 0 WAS RELOCATED IN MARCH 1977 – PRIOR DATA ARE NOT INCLUDED.

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

DENSITY & DIVERSITY OF BENTHIC MACROINVERTEBRATES COLLECTED BY GRABS AT STATIONS 0 & 1

FIGURE 2.2-9

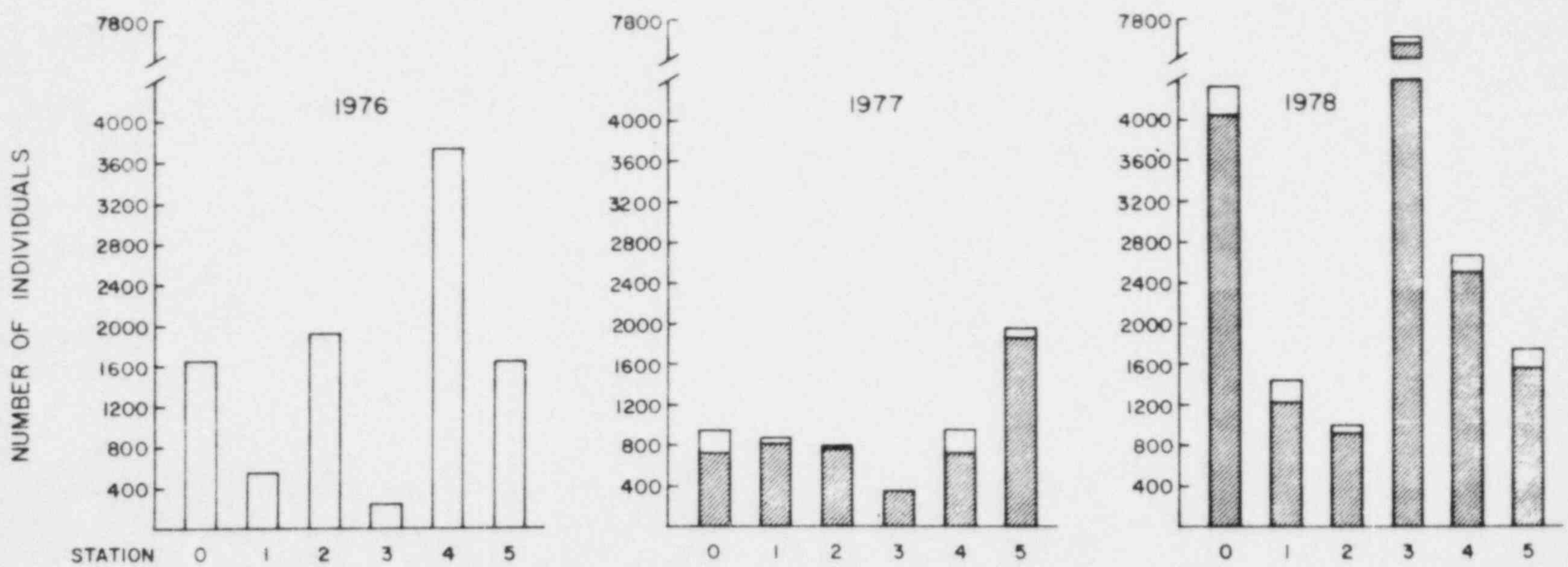


FLORIDA POWER & LIGHT COMPANY

ST. LUCIE PLANT UNIT 2

DENSITY & DIVERSITY OF BENTHIC MACROINVERTEBRATES COLLECTED BY GRABS AT STATIONS 2,3,4 & 5

FIGURE 2.2-10

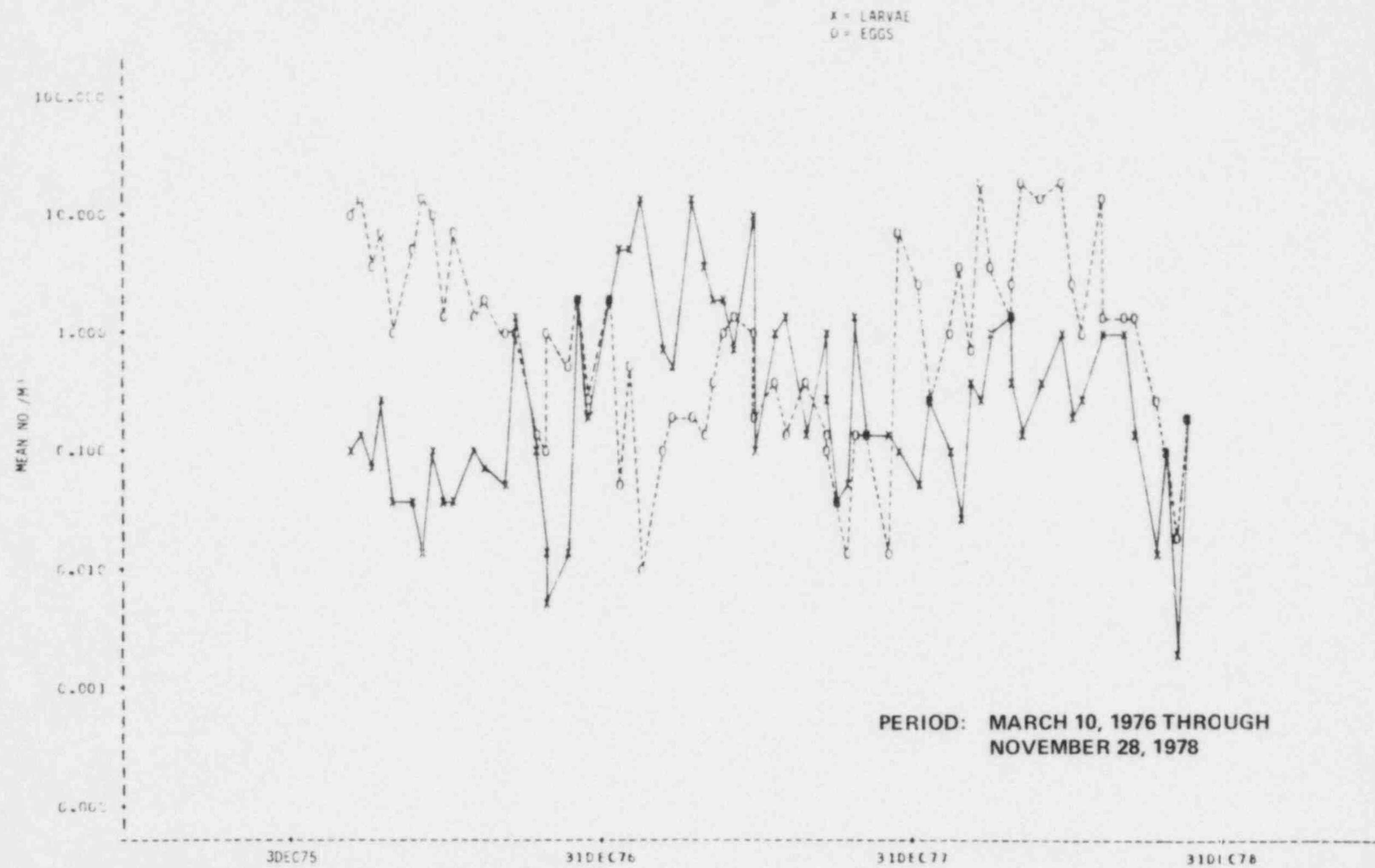


NOTE: 1. 1976: MARCH THROUGH DECEMBER
2. 1977: ALL MONTHS (MARCH THROUGH DECEMBER ARE SHADED FOR COMPARISON WITH 1976)

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

TOTAL NO. OF MACROINVERTEBRATES COLLECTED BY OTTER TRAWL AT EACH OFFSHORE STATION

FIGURE 2.2-11



FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2

MEAN FISH EGG & LARVAL DENSITIES (NUMBER/M^3), STATIONS 0 THROUGH 5

FIGURE 2.2-12

APPENDIX 2.2A:AQUATIC ECOLOGY

TABLES AND FIGURES FOR APPENDIX 2.2A ARE REPRODUCED FROM THE FOLLOWING:

APPLIED BIOLOGY. 1977 ECOLOGICAL MONITORING AT THE FLA POWER CO. ST LUCIE PLANT ANNUAL REPORT 1976

APPLIED BIOLOGY. 1978 ECOLOGICAL MONITORING AT THE FLA POWER & LT CO., ST. LUCIE PLANT ANNUAL REPORT 1977

APPLIED BIOLOGY 1979 ECOLOGICAL MONITORING AT THE FLA POWER & LT CO ST. LUCIE PLANT ANNUAL REPORT 1978

LIST OF TABLES

APPENDIX 2.2A

LIST OF TABLES (Continued)

LIST OF FIGURES

APPENDIX 2.2A

Table 2.2A-1

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
26 MARCH 1976

	Station and depth[c]															
	11		12		0		1		2		3		4		5	
Taxon	S	B	S	B	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	3,598,237.8 (98)	3,041,148.7 (99)	2,303,438.6 (96)	3,736,226.8 (99)	138,286.8 (50)	753,880.3 (95)	1,244,447.8 (88)	1,329,892.1 (93)	2,319,795.2 (90)	3,950,679.4 (94)	2,828,768.7 (93)	3,864,863.2 (94)	4,348,337.1 (94)	3,058,286.0 (93)	2,[illegible]56,698.6 (89)	6,555,433.4 (91)
Pyrrhophyta (dinoflagellates)	18,462.2 (1)	12,789.3 (<1)	2,845.0 (<1)	2,127.4 (<1)	425.5 (<1)	614.6 (<1)	26,946.8 (2)	11,396.0 (1)	39,723.3 (2)	16,073.4 (<1)	41,141.6 (1)	38,292.5 (1)	39,710.8 (1)	4,018.4 (<1)	46,802.0 (2)	14,182.4 (<1)
Chlorophyta (green algae)	25,528.4 (<1)	4,254.8 (<1)	41,128.9 (2)	19,855.4 (1)	133,683.3 (48)	15,789.8 (2)	95,022.1 (7)	60,984.4 (4)	165,934.1 (6)	205,172.0 (5)	134,732.7 (4)	172,316.1 (4)	190,044.1 (4)	224,791.0 (7)	168,061.4 (6)	567,295.7 (8)
Cyanophyta (blue-green algae)											187.5 (<1)			62.5 (<1)		
Euglenophyta (euglenoids)				2,127.4 (<1)									5,673.0 (<1)			
Cryptophyta (cryptophytes)							1,418.3 (<1)			5,673.0 (<1)					6,382.1 (<1)	
Xanthophyta (xanthophytes)					3,488.9 (1)	13,851.5 (2)	2,836.5 (<1)					7,091.2 (<1)				
Chrysophyceae (yellow-brown algae and silicoflagellates)																
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	25,528.3 (<1)	8,509.5 (<1)	9,927.8 (<1)		127.7 (<1)	1,560.1 (<1)	19,855.4 (<1)	2,826.5 (<1)	11,346.0 (<1)						2,127.4 (<1)	
Unidentified phytoflagellates	14,182.5 (<1)	17,019.1 (1)	38,292.5 (2)	21,273.7 (1)	808.4 (<1)	9,738.6 (1)	28,364.8 (2)	18,437.1 (1)	35,[illegible]36.0 (1)	11,345.9 (<1)	30,492.0 (1)	41,838.0 (1)	42,547.3 (1)	16,546.3 (1)	57,438.7 (2)	85,094.4 (1)
Other								1,418.3 (<1)							12,764.2 (<1)	
Total phytoplankton	3,681,974.4	3,083,719.6	2,395,632.5	3,781,610.8	276,819.3	795,434.9	1,418,891.4	1,424,963.6	2,572,254.6	4,188,943.9	3,035,321.6	4,124,401.1	4,626,312.1	3,303,704.2	2,750,274.2	7,222,005.9

[a] Values are expressed as cells per liter and represent the mean of two replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom.

SL2-ER-OL

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
21 APRIL 1976

Taxon	11 S	11 B	12 S	12 B	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
	Station and depth[c]															
Bacillariophyta (diatoms)	1,436,892.3 (83)	1,974,317.4 (85)	1,038,425.6 (80)	1,349,685.4 (87)	1,729,276.1 (91)	2,592,550.6 (92)	1,965,228.3 (88)	3,658,539.8 (88)	903,972.7 (92)	2,222,643.0 (85)	431,724.4 (88)	1,622,949.1 (91)	1,378,486.6 (90)	2,219,250.8 (91)	553,948.8 (80)	2,421,397.8 (91)
Pyrrhophyta (dinoflagellates)	18,720.9 (1)	39,727.6 (2)	23,233.3 (2)	15,372.0 (1)	17,514.0 (1)	6,390.6 (<1)	14,891.5 (1)	27,443.1 (1)	13,051.3 (1)	21,982.8 (1)	7,968.7 (2)	6,854.9 (<1)	16,090.3 (1)	5,654.0 (<1)	29,130.8 (4)	19,188.0 (1)
Chlorophyta (green algae)	173,167.0 (10)	150,333.4 (6)	107,153.4 (8)	72,261.6 (5)	123,859.7 (7)	176,570.9 (6)	176,570.8 (8)	336,122.8 (8)	44,816.4 (5)	190,044.1 (7)	32,822.1 (7)	102,113.2 (6)	56,256.9 (4)	95,541.6 (4)	52,002.1 (8)	105,658.8 (4)
Cyanophyta (blue-green algae)		50.0 (<1)			313.9 (<1)	62.5 (<1)	62.5 (<1)	44.5 (<1)		183.4 (<1)					88.6 (<1)	116.7 (<1)
Euglenophyta (euglenoids)																
Cryptophyta (cryptophytes)			1,329.6 (<1)							7,091.2 (<1)	283.7 (<1)					
Xanthophyta (xanthophytes)	1,560.1 (<1)				3,782.0 (<1)											
Chrysophyceae (yellow-brown algae and silicoflagellates)											632.5 (<1)		3,782.0 (<1)			
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	17,160.8 (1)	8,509.5 (<1)	30,226.3 (2)	4,872.4 (<1)	2,363.8 (<1)	[illegible],800.4 (<1)	14,891.5 (1)	8,509.5 (<1)			851.0 (<1)	4,491.1 (<1)	14,182.4 (<1)		14,820.7 (2)	2,336.5 (<1)
Unidentified phytoflagellates	93,603.9 (5)	141,824.0 (6)	96,174.5 (7)	107,603.2 (7)	26,473.9 (1)	45,383.7 (2)	55,311.4 (2)	117,241.2 (3)	22,691.9 (2)	161,679.3 (6)	10,602.2 (2)	49,638.4 (3)	56,729.6 (4)	111,934.9 (5)	37,441.6 (5)	98,567.6 (4)
Other								2,127.4 (<1)			5,956.6 (1)	4,491.2 (<1)	2,836.5 (<1)	14,182.4 (1)	4,420.2 (1)	3,545.6 (<1)
Total phytoplankton	1,741,104.0	2,314,760.4	1,296,541.6	1,549,793.6	1,903,581.2	2,828,768.7	2,226,956.1	4,150,028.3	984,531.5	2,603,623.8	490,840.7	1,790,538.0	1,528,364.5	2,446,563.7	691,852.8	2,6[illegible]1,[illegible]11.0

[a] Values are expressed as cells per liter and represent the mean of two replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
12 MAY 1976

	Station and depth[c]															
	11		12		0		1		2		3		4		5	
Taxon	S	B	S	B	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	157,087.1 (29)	576,636.1 (43)	220,343.0 (21)	161,390.7 (25)	99,148.7 (22)	154,581.5 (31)	136,123.7 (15)	140,490.0 (21)	155,433.6 (22)	122,077.2 (18)	101,633.3 (22)	148,037.8 (23)	210,328.4 (35)	102,826.5 (23)	209,730.0 (28)	130,346.9 (20)
Pyrrhophyta (dinoflagellates)	63,348.1 (12)	87,297.0 (7)	78,003.4 (7)	49,091.4 (7)	76,224.9 (17)	51,379.2 (10)	30,973.4 (3)	32,473.8 (5)	42,116.1 (6)	37,819.6 (6)	17,798.9 (4)	26,494.6 (4)	23,961.5 (4)	39,685.0 (5)	19,825.1 (3)	23,435.3 (4)
Chlorophyta (green algae)	64,529.9 (12)	205,644.7 (15)	143,951.4 (13)	35,622.7 (5)	41,568.7 (9)	59,377.0 (12)	211,081.3 (23)	198,470.5 (29)	99,513.1 (14)	96,440.3 (14)	86,512.6 (19)	107,428.4 (16)	120,795.7 (20)	140,499.3 (18)	276,715.3 (37)	166,828.5 (25)
Cyanophyta (blue-green algae)		83.4 (-1)		41.7 (-1)												
Euglenophyta (euglenoids)			1,418.3 (-1)		421.7 (<1)	1,197.7 (<1)		984.0 (<1)								
Cryptophyta (cryptophytes)			1,418.3 (-1)	1,418.3 (<1)		4,727.5 (1)	6,854.8 (1)		2,600.1 (<1)	6,618.5 (1)	3,403.8 (1)			945.5 (<1)		709.1 (<1)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)					421.7 (<1)			1,546.2 (<1)						1,265.1 (<1)		709.1 (<1)
Haptophyceae (haptophytes including coccolithophores)	65,239.0 (12)	81,548.8 (6)	31,910.3 (3)	45,657.4 (7)	61,025.3 (13)	111,316.1 (22)	72,330.2 (8)	109,215.3 (16)	57,438.7 (8)	83,203.4 (12)	51,226.8 (11)	66,184.5 (10)	90,592.4 (15)	90,912.0 (12)	60,848.2 (8)	59,332.5 (9)
Prasinophyceae (prasinophytes)	41,838.1 (8)	36,165.2 (3)	65,239.0 (6)	34,321.5 (5)	68,042.3 (15)	30,192.8 (6)	59,329.7 (6)	96,283.8 (14)	21,510.0 (3)	15,127.9 (2)	13,331.2 (3)	11,345.9 (2)	5,852.0 (1)	32,505.8 (4)	16,251.5 (2)	34,574.7 (5)
Unidentified phytoflagellates	143,951.3 (27)	333,995.4 (25)	525,457.8 (49)	313,714.6 (48)	109,117.2 (24)	84,968.4 (17)	404,670.9 (44)	79,557.1 (12)	335,177.2 (47)	322,413.2 (47)	184,030.9 (40)	276,399.1 (44)	140,470.0 (24)	286,988.1 (37)	162,038.6 (22)	245,912.5 (37)
Other	6,382.2 (1)	11,346.0 (1)	4,964.0 (<1)	14,749.7 (2)		630.4 (<1)	4,963.9 (1)	20,100.2 (3)	3,309.2 (<1)	945.5 (<1)	567.3 (<1)	1,575.9 (<1)	945.5 (<1)	3,156.1 (<1)	7,676.8 (1)	1,721.2 (<1)
Total phytoplankton	542,375.7	1,332,715.3	1,072,706.3	656,018.0	455,970.6	498,370.3	926,327.9	679,121.4	717,098.4	684,644.9	458,505.1	631,836.0	592,945.7	778,782.8	753,094.7	664,169.8

[a] Values are expressed as cells per liter and represent the mean of two replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION [b]
ST. LUCIE PLANT
8 JUNE 1976

Taxon	Station and depth[c] T1 S	T1 B	T2 S	T2 B	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	1,469,874.3 (66)	1,281,739.2 (68)	2,150,362.9 (65)	2,547,242.7 (78)	2,064,582.3 (88)	2,672,707.4 (74)	2,461,424.4 (87)	3,475,906.1 (87)	1,026,243.4 (70)	1,032,572.4 (86)	213,544.8 (76)	481,956.1 (74)	534,118.3 (82)	246,906.3 (86)	739,091.6 (82)	1,361,832.2 (88)
Pyrrhophyta (dinoflagellates)	13,190.2 (1)	15,475.5 (1)	34,619.9 (1)	16,446.0 (1)	8,564.4 (<1)	40,440.0 (1)	5,262.8 (<1)	26,960.0 (1)	29,593.3 (2)	10,533.9 (1)	5,270.4 (2)	6,620.4 (1)	5,271.2 (1)	1,824.6 (1)	17,159.5 (2)	1,265.1 (<1)
Chlorophyta (green algae)	113,147.8 (5)	137,790.7 (7)	197,350.8 (6)	141,434.7 (4)	51,311.2 (2)	269,599.9 (7)	80,233.5 (3)	102,448.0 (3)	100,838.1 (7)	44,732.9 (4)	18,403.8 (7)	50,918.7 (8)	17,761.6 (3)	11,528.8 (4)	58,754.2 (7)	73,173.4 (3)
Cyanophyta (blue-green algae)		13.9 (<1)								16.7 (<1)						
Euglenophyta (euglenoids)	2,631.4 (<1)		2,741.0 (<1)	3,289.2 (<1)						2,631.4 (<1)	657.0 (<1)		1,315.7 (<1)		3,373.5 (<1)	
Crytophyta (crytophytes)			2,741.0 (<1)	6,578.4 (<1)												
Xanthophyta (Xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)			2,741.0 (<1)			13,480.0 (<1)			2,875.8 (<1)							1,265.1 (<1)
Haptophyceae (haptophytes including coccolithophores)	10,525.4 (<1)	2,811.2 (<1)	2,741.0 (<1)	6,578.4 (<1)		13,480.0 (<1)	5,392.0 (<1)		5,751.5 (<1)		1,971.9 (1)				1,686.7 (<1)	
Prasinophyceae (prasinophytes)		5,622.4 (<1)		3,289.2 (<1)	13,156.8 (1)		5,392.0 (<1)	16,176.0 (<1)	2,875.8 (<1)	3,947.0 (<1)	1,314.9 (<1)	3,285.1 (1)	3,289.2 (1)	809.1 (<1)	12,369.3 (1)	20,714.8 (1)
Unidentified phytoflagellates	623,628.4 (28)	444,170.1 (23)	932,482.4 (28)	549,293.1 (17)	203,271.4 (9)	566,159.9 (16)	255,020.8 (9)	388,223.9 (10)	285,353.8 (19)	103,938.1 (9)	37,475.5 (13)	108,407.5 (17)	88,150.1 (14)	25,484.8 (9)	66,625.5 (7)	164,610.0 (8)
Other	10,525.4 (<1)	2,811.2 (<1)		6,578.4 (<1)	7,236.2 (<1)	26,960.0 (1)	10,654.7 (<1)		12,574.3 (1)	3,947.1 (<1)	3,946.2 (1)					
Total phytoplankton	2,243,521.4	1,890,434.3	3,325,780.0	3,280,730.1	2,348,122.5	3,602,826.5	2,823,378.6	4,013,714.0	1,466,104.3	1,202,317.7	282,582.2	651,185.8	649,906.5	286,553.6	899,060.3	2,122,860.6

[a] Values are expressed as cells per liter and represent the mean of two replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
14 JULY 1976

Taxon	Station and depth[c] 11 S	11 B	12 S	12 B	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	354,123.5 (21)	357,040.5 (23)	382,769.5 (17)	426,755.0 (20)	406,393.5 (30)	601,597.3 (39)	94,729.8 (11)	105,789.1 (11)	482,813.3 (36)	601,197.4 (37)	699,493.0 (55)	803,224.6 (59)	660,175.2 (62)	589,291.3 (55)	292,764.2 (16)	578,323.9 (58)
Pyrrhophyta (dinoflagellates)	182,773.5 (11)	45,320.0 (3)	57,116.7 (3)	7,615.6 (<1)	41,885.6 (3)	68,017.6 (4)	49,341.5 (6)	54,210.6 (6)	20,625.6 (2)	30,145.0 (2)	37,246.0 (3)	25,374.6 (2)	62,717.7 (6)	30,703.1 (3)	71,078.8 (4)	64,732.2 (7)
Chlorophyta (green algae)	97,098.5 (6)	109,455.1 (7)	102,810.1 (5)	121,849.1 (6)	80,725.0 (6)	102,287.5 (7)	97,579.0 (11)	81,742.2 (8)	172,143.5 (13)	136,445.6 (9)	108,402.7 (9)	101,398.2 (8)	36,467.7 (3)	24,015.4 (2)	172,619.5 (9)	15,231.1 (2)
Cyanophyta (blue-green algae)		25.0 (<1)			16,754.2 (1)	33.3 (<1)								8.2 (<1)	15,231.1 (1)	
Euglenophyta (euglenoids)					4,188.6 (<1)			1,072.0 (<1)				2,668.4 (<1)			2,538.5 (<1)	
Cryptophyta (cryptophytes)	68,540.1 (4)	37,779.1 (2)	28,558.4 (1)	15,231.1 (1)	40,743.3 (3)	109,679.1 (7)	5,847.5 (1)	2,168.4 (<1)	15,072.5 (1)	14,279.2 (1)	13,897.8 (1)	4,002.6 (<1)	69,822.5 (7)	102,732.4 (10)	71,078.7 (4)	30,462.3 (3)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)					4,188.6 (<1)	3,807.8 (<1)	2,192.8 (<1)	1,072.0 (<1)	2,379.9 (<1)	1,586.6 (<1)			3,557.9 (<1)	1,334.2 (<1)		3,807.8 (<1)
Haptophyceae (haptophytes including coccolithophores)				7,615.6 (<1)	4,188.6 (<1)				2,379.9 (<1)							3,807.0 (<1)
Prasinophyceae (prasinophytes)	28,558.3 (2)	56,444.8 (4)	102,810.7 (5)	7,615.6 (<1)	8,377.2 (<1)	18,964.3 (1)	19,004.2 (2)	28,823.0 (3)	15,865.8 (1)	15,865.8 (1)	52,811.5 (4)	20,012.8 (2)	14,676.0 (1)	14,676.0 (1)	17,769.7 (1)	11,423.3 (1)
Unidentified phytoflagellates	976,696.3 (57)	968,670.1 (61)	1,507,882.1 (69)	1,538,344.3 (72)	753,560.3 (55)	628,433.5 (41)	578,895.5 (67)	688,047.6 (71)	613,211.8 (46)	810,740.5 (50)	351,891.9 (28)	401,590.3 (30)	213,470.0 (20)	304,194.7 (29)	1,185,489.8 (65)	274,160.4 (28)
Other	5,711.7 (<1)	7,615.6 (<1)	11,423.3 (1)		11,804.1 (<1)	3,807.8 (<1)	12,791.2 (2)	5,067.8 (1)	1,586.6 (<1)	3,173.1 (<1)	6,115.0 (<1)	1,334.2 (<1)	889.5 (<1)	1,334.2 (<1)	7,615.6 (<1)	7,615.6 (1)
Total phytoplankton	1,713,502.0	1,582,350.6	2,193,370.6	2,125,026.3	1,372,809.0	1,536,628.0	860,381.5	967,992.6	1,326,078.2	1,613,433.2	1,269,858.0	1,359,605.8	1,061,776.6	1,068,289.6	1,836,185.5	989,564.3

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
11 AUGUST 1976

Taxon	11 S	11 B	12 S	12 B	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
	Station and depth[c]															
Bacillariophyta (diatoms)	1,749,122.3 (30)	1,725,251.1 (42)	1,105,124.0 (32)	1,280,532.0 (37)	329,460.2 (39)	463,901.2 (42)	606,252.7 (32)	717,894.4 (56)	152,539.3 (20)	320,300.6 (19)	123,588.4 (19)	155,089.9 (18)	105,348.9 (17)	168,771.2 (16)	401,042.1 (20)	514,546.7 (33)
Pyrrhophyta (dinoflagellates)	465,128.9 (8)	45,693.4 (1)	129,531.3 (4)	83,771.3 (2)	22,697.9 (3)	27,581.5 (3)	74,797.8 (4)	18,011.5 (1)	38,116.8 (5)	45,700.2 (3)	28,633.3 (4)	28,558.3 (3)	37,052.2 (6)	11,744.0 (1)	91,386.9 (4)	36,174.0 (2)
Chlorophyta (green algae)	74,251.8 (1)	45,693.4 (1)	30,462.3 (1)	68,540.1 (2)	84,053.8 (10)	131,639.8 (12)	192,123.0 (10)	64,040.9 (5)	30,462.2 (4)	57,878.3 (3)	45,693.3 (7)	28,558.4 (3)	71,868.2 (12)	67,243.0 (6)	154,215.2 (8)	53,309.0 (3)
Cyanophyta (blue-green algae)					25.0 (<1)	8.3 (<1)	16.7 (<1)	37.5 (<1)							25.0 (<1)	
Euglenophyta (euglenoids)	15,231.1 (<1)			7,615.6 (<1)			2,668.4 (<1)	2,001.3 (<1)								
Cryptophyta (cryptophytes)	586,398.6 (10)	106,617.9 (3)	167,542.5 (5)	106,617.9 (3)	45,362.4 (5)	71,156.6 (6)	186,786.2 (10)	100,064.0 (8)	27,923.7 (4)	198,004.7 (12)	19,990.9 (3)	19,990.8 (2)	37,713.0 (6)	140,890.2 (13)	39,981.7 (2)	41,885.6 (3)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)				7,615.6 (<1)	1,334.2 (<1)	1,778.9 (<1)		4,002.5 (<1)					2,134.7 (<1)	13,875.5 (1)		
Haptophyceae (haptophytes including coccolithophores)	15,231.1 (<1)	15,231.1 (<1)	15,231.1 (<1)	53,309.0 (2)					2,538.5 (<1)	12,184.9 (1)	2,855.8 (<1)	5,711.7 (1)			28,558.4 (1)	5,711.7 (<1)
Prasinophyceae (prasinophytes)	9,519.5 (<1)		60,924.6 (2)	22,846.7 (1)	22,681.2 (3)	16,010.2 (1)	133,418.7 (7)	8,005.1 (1)	7,615.6 (1)	18,277.3 (1)		17,135.0 (2)	11,385.0 (2)	22,414.3 (2)	17,135.0 (1)	
Unidentified phytoflagellates	2,842,510.1 (49)	2,162,820.8 (53)	1,934,353.8 (56)	1,789,658.1 (52)	328,210.1 (39)	391,806.3 (35)	717,792.7 (37)	376,240.8 (29)	515,320.0 (67)	1,011,347.2 (60)	436,943.1 (66)	608,293.3 (70)	315,223.9 (52)	629,736.4 (60)	1,313,685.1 (64)	973,387.4 (59)
Other				15,231.1 (<1)	5,336.8 (1)	6,226.2 (1)	8,005.1 (<1)	4,002.6 (<1)		12,184.9 (1)			25,260.6 (4)			
Total phytoplankton	5,757,393.4	4,101,307.7	3,443,169.6	3,435,737.4	839,161.6	1,110,109.0	1,921,861.2	1,294,300.6	774,516.1	1,675,878.1	657,704.8	863,337.9	605,986.5	1,054,674.6	2,046,029.4	1,575,014.4

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
14 SEPTEMBER 1976

Taxon	Station and depth[c] 11 S	11 B	12 S	12 B	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	1,570,710.6 (51)	607,370.4 (63)	188,510.1 (9)	354,223.8 (20)	937,114.8 (62)	2,315,353.8 (75)	1,797,523.9 (56)	3,491,689.8 (70)	705,575.3 (45)	1,303,182.8 (64)	460,060.2 (33)	1,091,842.3 (46)	779,540.4 (43)	1,549,590.1 (65)	438,311.6 (33)	1,505,574.6 (57)
Pyrrhophyta (dinoflagellates)	14,841.8 (<1)	11,423.4 (1)	165,663.6 (8)	125,656.8 (7)	22,959.2 (2)	64,753.3 (2)	114,283.6 (4)	38,133.4 (1)	29,342.7 (2)	12,007.7 (1)	33,541.9 (2)	11,448.4 (<1)	32,045.5 (2)	10,706.7 (<1)	45,734.9 (3)	19,039.0 (1)
Chlorophyta (green algae)		13,327.2 (1)		11,423.3 (1)	5,711.7 (<1)	34,270.0 (1)	7,615.6 (<1)	38,077.8 (1)	56,017.9 (4)	68,043.5 (3)		28,558.4 (1)	101,398.2 (6)	117,408.4 (5)	7,615.6 (1)	9,519.5 (<1)
Cyanophyta (blue-green algae)					62.5 (<1)	75.0 (<1)	66.7 (<1)	333.3 (<1)	283.3 (<1)	250.0 (<1)	73.3 (<1)	400.0 (<1)	200.0 (<1)	400.0 (<1)	191.7 (<1)	41.7 (<1)
Euglenophyta (euglenoids)	42,837.6 (1)		5,711.7 (<1)	5,711.7 (<1)					2,667.5 (<1)							
Cryptophyta (cryptophytes)	314,142.1 (10)	19,038.9 (2)	342,700.5 (17)	382,682.2 (21)	79,963.5 (5)	78,059.6 (3)	152,311.3 (5)	114,233.5 (2)	136,043.5 (9)	116,074.3 (6)	57,978.3 (4)	74,251.7 (3)	122,745.2 (7)	112,071.7 (5)	64,732.3 (5)	47,597.3 (2)
Xanthophyta (xanthophytes)					12.5 (<1)											
Chrysophyceae (yellow-brown algae and silicoflagellates)								25,385.2 (1)	5,335.0 (<1)	4,002.6 (<1)	82,248.1 (6)	85,675.1 (4)	5,336.7 (<1)			
Haptophyceae (haptophytes including coccolithophores)	42,837.6 (1)	3,807.8 (<1)	5,711.7 (<1)	17,135.0 (1)			7,615.6 (<1)						13,341.9 (1)			
Prasinophyceae (prasinophytes)	14,279.2 (<1)	3,807.8 (<1)	182,773.6 (9)	137,080.1 (8)	11,423.3 (1)		99,002.4 (3)	12,692.6 (<1)	77,358.1 (5)	28,017.9 (1)	33,508.5 (2)		48,030.7 (3)	10,673.5 (<1)	60,924.5 (5)	9,519.5 (<1)
Unidentified phytoflagellates	1,056,659.8 (35)	297,007.1 (31)	1,096,641.6 (55)	765,364.4 (42)	451,222.4 (30)	582,590.9 (19)	1,043,332.6 (32)	1,269,261.1 (25)	544,174.1 (35)	516,330.5 (25)	725,001.9 (52)	1,062,371.5 (45)	688,440.6 (38)	565,695.4 (24)	696,824.3 (52)	1,018,582.0 (39)
Other		3,807.8 (<1)		5,711.7 (<1)	5,711.7 (<1)				13,337.6 (1)				13,341.8 (1)	26,683.7 (1)	15,231.1 (1)	9,519.5 (<1)
Total phytoplankton	3,056,308.7	959,590.4	1,987,712.8	1,804,989.0	1,514,181.7	3,075,102.6	3,221,751.7	4,989,806.7	1,570,135.0	2,047,909.3	1,392,312.2	2,354,547.4	1,804,421.0	2,393,229.5	1,329,566.0	2,619,393.1

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
15 OCTOBER 1976

Taxon	Station and depth[c] 11 S	11 B	12 S	12 B	0 S	0 B	1 S	1 B
Bacillariophyta (diatoms)	2,364,536.2 (51)	6,120,022.1 (62)	3,431,215.3 (53)	2,299,797.3 (53)	2,657,252.8 (64)	5,969,679.9 (70)	4,813,648.7 (62)	4,973,342.5 (59)
Pyrrhophyta (dinoflagellates)		45,693.4 (<1)	57,200.0 (1)		30,462.2 (1)	19,038.9 (<1)	53,534.2 (1)	26,683.7 (<1)
Chlorophyta (green algae)	19,038.9 (<1)			38,077.8 (1)	15,231.1 (<1)	38,077.8 (<1)	13,341.9 (<1)	53,367.5 (1)
Cyanophyta (blue-green algae)	250.0 (<1)	297,007.1 (3)	83.3 (<1)	83.3 (<1)		166.7 (<1)	666.7 (<1)	166.6 (<1)
Euglenophyta (euglenoids)								
Cryptophyta (cryptophytes)	437,895.1 (9)	228,467.0 (2)	285,583.7 (4)	228,467.0 (5)	76,155.7 (2)	152,311.3 (2)	400,256.1 (5)	466,965.5 (6)
Xanthophyta (xanthophytes)		22,846.7 (<1)			66.7 (<1)			
Chrysophyceae (yellow-brown algae and silicoflagellates)							26,683.7 (<1)	13,341.9 (<1)
Haptophyceae (haptophytes including coccolithophores)	38,077.8 (1)	91,386.8 (1)	95,194.6 (1)	19,038.9 (<1)	45,693.4 (1)	133,272.4 (2)		
Prasinophyceae (prasinophytes)	38,077.8 (1)	45,693.4 (<1)	57,116.7 (1)	114,233.5 (3)	60,924.5 (1)	76,155.6 (1)	66,709.3 (1)	106,735.0 (1)
Unidentified phytoflagellates	1,770,619.1 (38)	2,970,070.8 (30)	2,551,214.7 (39)	1,675,424.5 (38)	1,233,721.7 (30)	1,865,813.7 (22)	2,441,562.6 (31)	2,641,690.7 (31)
Other		22,846.7 (<1)	38,077.8 (1)		15,231.1 (<1)	228,466.5 (3)		133,418.7 (2)
Total phytoplankton	4,668,494.9	9,844,034.0	6,515,686.4	4,3[illegible]5,122.3	4,134,739.2	8,482,983.2	7,816,403.2	8,415,712.1

Taxon	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	1,658,338.0 (40)	1,594,753.5 (52)	1,159,285.3 (38)	3,498,266.4 (60)	1,146,814.3 (41)	4,718,720.1 (64)	1,221,924.3 (43)	3,716,765.3 (57)
Pyrrhophyta (dinoflagellates)	50,770.3 (1)	7,615.6 (<1)	72,096.2 (2)	133.3 (<1)	57,116.8 (2)	22,846.7 (<1)	91,386.9 (3)	45,693.4 (1)
Chlorophyta (green algae)	15,231.1 (<1)	15,231.1 (<1)	32,020.5 (1)			159,926.9 (2)		22,846.7 (<1)
Cyanophyta (blue-green algae)	555.5 (<1)	66.7 (<1)	575.0 (<1)	333.3 (<1)	312.5 (<1)	400.0 (<1)	10,365.6 (<1)	400.0 (<1)
Euglenophyta (euglenoids)			4,002.6 (<1)				7,615.6 (<1)	
Cryptophyta (cryptophytes)	360,470.1 (9)	198,004.8 (6)	[illegible]80,179.3 (9)	245,490.4 (4)	276,064.3 (10)	251,313.7 (3)	182,773.6 (6)	182,773.6 (3)
Xanthophyta (xanthophytes)	66.7 (<1)		25.0 ([illegible])		104.2 (<1)		16.7 (<1)	200.0 (<1)
Chrysophyceae (yellow-brown algae and silicoflagellates)			12,007.7 (<1)	10,673.5 (<1)		22,846.7 (<1)		
Haptophyceae (haptophytes including coccolithophores)	25,385.2 (1)	22,846.7 (1)			28,558.4 (1)	22,8[illegible].7 (<1)		114,233.5 (2)
Prasinophyceae (prasinophytes)	319,853.8 (8)	53,309.0 (2)	104,066.6 (3)		152,311.3 (5)	91,386.[illegible] (1)	205,620.3 (7)	[illegible]2,846.7 (<1)
Unidentified phytoflagellates	1,634,808.1 (40)	1,134,719.3 (37)	1,348,863.3 (44)	1,857,188.6 (32)	1,123,296.0 (40)	1,941,969.4 (26)	1,127,103.8 (39)	[illegible],033,356.2 (31)
Other	30,462.3 (1)	38,077.9 (1)	76,048.7 (2)	256,[illegible] (4)	28,558.4 ([illegible])	114,233.5 (2)	7,615.6 (<1)	3[illegible]2,700.5 (5)
Total phytoplankton	4,095,941.1	3,064,624.6	3,089,170.[illegible]	5,868,249.4	2,813,136.2	7,346,490.5	2,854,422.4	[illegible],481,815.9

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage va'ues are given in parentheses.

[c] S = Surface; B = Bottom.

Table 2.2-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION [b]
ST. LUCIE PLANT
10 NOVEMBER 1976

Taxon	Station and depth[c] 11 S	11 B	12 S	12 B	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	765,123.4 (42)	3,451,626.9 (56)	1,192,428.3 (46)	2,630,161.9 (44)	2,816,598.1 (61)	4,724,764.2 (61)	1,563,075.6 (77)	2,977,970.9 (74)	1,509,339.3 (60)	2,103,505.1 (62)	415,473.8 (39)	622,821.3 (53)	1,115,806.3 (55)	1,018,354.8 (50)	715,055.5 (55)	1,427,357.9 (55)
Pyrrhophyta (dinoflagellates)	15,964.4 (1)	57,241.7 (1)	45,726.6 (2)	76,155.6 (1)	8,255.1 (<1)	53,450.8 (1)	23,013.5 (1)	69,040.2 (2)	20,162.9 (1)	26,716.8 (1)	11,556.6 (1)	30,706.6 (3)	45,793.4 (2)	45,693.4 (2)	19,088.9 (2)	19,205.7 (1)
Chlorophyta (green algae)	30,462.3 (2)	19,038.9 (<1)			16,010.2 (<1)	80,051.2 (1)	30,462.3 (2)	22,846.7 (1)	40,025.6 (2)	32,020.5 (1)	3,807.8 (<1)	15,231.1 (1)	7,615.6 (<1)			9,519.5 (<1)
Cyanophyta (blue-green algae)	66.7 (<1)	291.7 (<1)			3,650.0 (<1)	2,833.3 (<1)	433.3 (<1)	233.3 (<1)	3,925.0 (<1)	2,000.0 (<1)	1,816.7 (<1)	2,288.9 (<1)	9,816.6 (1)		6,633.3 (1)	2,333.4 (<1)
Euglenophyta (euglenoids)																
Cryptophyta (cryptophytes)	91,386.8 (5)	437,895.1 (7)	106,617.9 (4)	456,934.0 (8)	368,235.7 (8)	653,751.8 (9)	38,077.8 (2)	190,389.2 (5)	224,143.4 (9)	224,143.5 (7)	79,963.5 (7)	25,385.2 (2)	137,080.2 (7)	45,693.4 (2)	106,617.9 (8)	76,155.7 (3)
Xanthophyta (xanthophytes)												5,077.0 (<1)				
Chrysophyceae (yellow-brown algae and silicoflagellates)					16,010.3 (<1)		7,615.6 (<1)	15,231.1 (<1)	4,002.6 (<1)	10,673.4 (<1)	7,615.6 (1)					9,519.5 (<1)
Haptophyceae (haptophytes including coccolithophores)				38,077.8 (1)			7,615.6 (<1)	30,462.3 (1)		5,336.7 (<1)		5,077.0 (<1)	7,615.6 (<1)			
Prasinophyceae (prasinophytes)		209,428.1 (3)		133,272.4 (2)	64,041.0 (1)	53,367.5 (1)	53,309.0 (3)	106,617.9 (3)	52,033.3 (2)	42,694.0 (1)	68,540.1 (6)	20,308.2 (2)	30,462.3 (2)	45,693.4 (2)	15,231.1 (1)	19,038.9 (1)
Unidentified phytoflagellates	913,867.9 (50)	1,903,891.6 (31)	1,233,721.7 (48)	2,703,526.0 (45)	1,256,804.3 (27)	2,001,280.8 (26)	312,238.2 (15)	586,398.6 (15)	644,412.4 (25)	885,900.3 (26)	475,972.9 (44)	441,702.8 (38)	670,169.9 (33)	891,021.3 (44)	418,856.2 (32)	1,037,620.9 (40)
Others		76,155.6 (1)			48,030.7 (1)	160,102.5 (2)	7,615.6 (<1)	15,231.1 (<1)	36,023.1 (1)	80,051.2 (2)	15,231.1 (1)	5,077.0 (<1)	7,615.6 (<1)		11,423.3 (1)	
Total phytoplankton	1,816,871.5	6,155,569.6	2,578,494.5	6,038,127.7	4,597,635.5	7,729,602.0	2,043,456.5	4,014,421.3	2,534,066.7	3,413,041.5	1,079,978.1	1,173,675.1	2,031,975.5	2,046,456.3	1,292,906.2	2,600,751.5

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]

ST. LUCIE PLANT

13 DECEMBER 1976

TAXON	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	623,284.7 (59)	2,349,061.1 (74)	1,486,172.9 (70)	800,059.1 (64)	1,037,650.5 (63)	1,190,678.5 (68)	1,273,612.8 (67)	1,540,406.9 (62)	353,040.5 (38)	562,290.5 (49)	166,896.9 (63)	223,768.1 (51)	187,627.2 (49)	214,356.7 (51)	285,801.5 (53)	408,[illegible] (58)
Pyrrophyta (dinoflagellates)	22,871.6 (2)		11,435.8 (1)	7,615.6 (1)	34,319.9 (2)	15,231.1 (1)	21,397.0 (1)	32,220.6 (1)	5,345.1 (1)	10,673.5 (1)	16.7 (<1)	15,252.0 (3)	5,728.4 (2)	13,343.8 (3)	8,173.8 (2)	7,632.2 (1)
Chlorophyta (green algae)	5,711.7 (1)		2,855.9 (<1)	15,231.1 (1)	15,297.8 (1)	30,528.9 (2)	32,020.5 (2)	24,015.4 (1)	13,341.9 (1)	21,513.7 (2)	7,615.6 (3)	15,231.1 (3)	15,231.1 (4)	3,807.8 (1)	4,895.7 (1)	7,615.8 (1)
Cyanophyta (blue-green algae)	325.0 (<1)		162.5 (<1)	33.3 (<1)	333.3 (<1)		4,000.0 (<1)	125.0 (<1)	100.0 (<1)	50.0 (<1)	166.7 (<1)	379.2 (<1)	20.8 (<1)	275.0 (<1)	1,028.5 (<1)	158.4 (<1)
Euglenophyta (euglenoids)						3,807.8 (<1)										
Cryptophyta (cryptophytes)	51,405.1 (5)	106,617.9 (3)	79,011.5 (4)	49,501.2 (4)	110,425.7 (7)	102,810.1 (6)	83,051.2 (4)	136,087.1 (5)	117,408.5 (13)	82,719.6 (7)	1,903.9 (1)	17,135.0 (4)	22,846.7 (6)	28,558.4 (7)	34,270.0 (6)	51,405.1 (7)
Xanthophyta (xanthophytes)						3,807.8 (<1)										
Chrysophyceae (yellow-brown algae and silicoflagellates)				3,807.8 (<1)	7,615.6 (<1)	3,807.8 (<1)	2,668.4 (<1)	12,007.7 (<1)	2,668.4 (<1)	2,668.4 (<1)		3,807.8 (1)		3,807.8 (1)		
Haptophyceae (haptophytes including coccolithophores)															1,631.9 (<1)	
Prasinophyceae (prasinophytes)	17,135.0 (2)	30,462.3 (1)	23,798.7 (1)	30,462.2 (2)	49,501.2 (3)	15,231.1 (1)	42,694.0 (2)	56,035.8 (2)	32,020.5 (3)	21,347.0 (2)	3,807.8 (1)	5,711.7 (1)	17,135.0 (4)	15,231.1 (4)	13,055.2 (2)	13,327.2 (2)
Unidentified phytoflagellates	339,844.6 (32)	654,938.7 (21)	497,391.7 (24)	319,853.8 (26)	380,778.3 (23)	380,778.3 (22)	440,281.8 (23)	684,438.1 (27)	389,582.7 (42)	445,618.5 (39)	85,675.1 (32)	154,215.2 (35)	131,368.5 (34)	137,080.2 (33)	181,141.7 (34)	220,851.4 (31)
Others		30,462.3 (1)	15,231.1 (1)	19,038.9 (2)			13,341.9 (1)	12,007.7 (<1)	13,341.9 (1)	8,005.1 (1)		3,807.8 (1)	1,903.9 (<1)	1,903.9 (<1)	8,159.5 (2)	
Total phytoplankton	1,060,577.7	3,171,542.3	2,116,060.1	1,245,602.9	1,635,922.3	1,746,680.9	1,910,067.6	2,497,346.3	926,849.4	1,154,886.3	266,082.7	439,307.7	381,861.6	418,364.7	538,157.8	709,368.9

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON ABUNDANCE AND COMPOSITION IN CELLS PER LITER[a]
ST. LUCIE PLANT
13 DECEMBER 1976

SPECIES	STATION AND DEPTH[b]														
	11		12	0		1		2		3		4		5	
	S	B	S	S	B	S	B	S	B	S	B	S	B	S	B
BACILLARIOPHYTA (diatoms)															
Amphiprora spp.									2668.4		1903.9			3263.8	1903.9
Amphora spp.	2855.8		3807.8		3807.8	13341.9	56035.9				11423.4	24750.6	19038.9	3263.8	3807.8
Asterionella japonica		15231.1	7615.5					2668.4		3807.8				1631.9	
Biddulphia alternans		45693.4	3807.8		7615.6	13341.9	20012.8	2668.4		5711.7	1903.9		1903.9		
B. aurita						5338.7									3807.8
B. longicruris	2855.8	15231.1													
B. mobiliensis										1903.9					
B. rhombus	8567.5	60924.5	11423.3	3807.8	3807.8					1903.9		1903.9	3807.8	3263.8	
Biddulphia spp.															
Campylosira	5711.7	441702.8	129462.6		15231.1	29352.1	20012.8	2668.4	21347.0	5711.7				19582.9	13327.2
cymbelliformis[†]	12.5					50.0		25.0		20.8			20.8		
Cerataulina bergonii					3807.8										
Chaetoceros laevis															7615.6
C. wighami	22846.7			26654.5	49501.2	16010.2	24015.4	40025.6	2668.4	1903.9	9519.5	3807.6	1903.9	4895.7	15231.1
Chaetoceros spp.				3807.8											
Corethron hystrix		15231.1									3807.8		1903.9		
Coscinodiscus lineatus	75.0	666.7	100.0	66.7	50.0	183.3	200.0	400.0	400.0	33.3	25.0	20.8	29.2	21.4	25.0
C. radiatus	5711.7	30462.3				2668.4			2668.4	1903.9	1903.9				1903.9
Coscinodiscus spp.		[illegible]													
Cyclotella sp. 1[†]		15231.1	3807.8			5336.7									
Cyclotella spp.													[illegible]		
Cymbella spp.	17135.0	45693.4	[illegible]			10673.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]
Diploneis sp. 1															
Eunotogramma marinum[†]		60924.5													
Fragilaria ? sp.						66.7	50.0		16.7	33.3			12.5		
Guinardia flaccida		133.3													
Gyrosigma terryanum		200.0	25.0												
Gyrosigma spp.												4.2			
Isthmia enervis								2668.4	10673.6				1903.9	4895.7	
Leptocylindrus danicus			7615.6	3807.8			4002.6								
Melosira sulcata															
Navicula lyra v.		66.7	8.3												
lyra	137.5			150.0	123.3	133.3	275.0	191.7	283.3	8.3	4.2	25.0	4.2	150.0	91.7
N. wawrikae							4002.6								
Navicula sp. 6															
Nitzschia acicularis v.	5711.7		3807.8	3807.8	15231.1							9519.4		4895.7	9519.5
closterioides	22846.7	30462.3	15231.1	38077.8	45693.4	32020.5	40025.6	21347.0	40025.6	5711.7	15231.1	17135.0	24750.6	27742.4	32366.1
N. closterium		15231.1			3807.8	2668.4			5336.2	1903.9	1903.9	1903.9			1903.9
N. constricta	34270.0	76155.7	30462.2	26654.0	26654.[illegible]	106735.0	44028.2	[illegible]	[illegible]	7615.6	15231.1	5711.7	9519.5	27742.4	5711.7
N. delicatissima	2855.8	15231.1				2668.4		2668.4		3807.8				3263.8	5711.7
N. longissima			191.7	1416.7	2133.3	2250.0	2175.0	2541.[illegible]	3116.7	1075.0	916.7	941.7	987.5	1450.0	2016.7
N. paradoxa						13341.9									
N. pungens v. *atlantica*		133.3			16.7				33.3				4.2	14.3	8.3
N. sigmoidea															1903.9
N. spathulata		133.3	8.3		16.7							4.2		14.3	8.3
Nitzschia sp. 1			8.3												
Nitzschia sp. 2	8567.5	121849.1	7615.5		3807.8			2668.4	2668.4	15231.1	7615.6	1903.9	13327.2	6527.6	
Rhaphoneis surirella				50.0				25.0	16.7		16.7		4.2	7.1	25.0
Rhizosolenia alata							25.0	8.3							
R. alata f. *indica*	25.0			33.3		133.3		41.7	33.3	41.7	45.8	37.5	25.0	21.4	50.0
R. calcar avis							4002.6								
R. fragilissima															

[a] Values are mean of three replicates.

[b] S = Surface; B = Bottom.

[†] See Table M-15 for synonomous name.

Table 2.2A-1
cont'd
PHYTOPLANKTON ABUNDANCE AND COMPOSITION IN CELLS PER LITER[a]
ST. LUCIE PLANT
13 DECEMBER 1976

SPECIES	STATION AND DEPTH[b] 11 S	11 B	12 S	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
OTHERS															
Unidentified [illegible]		30462.3	19038.9			[illegible]	12007.7	13341.8	8005.1		[illegible]	[illegible]	1903.9	[illegible]	
TOTAL OTHERS		30,462.3	19,038.9			11,341.9	12,007.7	13,341.8	8,005.1		[illegible]	1,402.9	1,903.9	8,159.5	
TOTAL PHYTOPLANKTON	1,360,577.7	3,171,542.3	1,245,602.9	1,635,922.3	1,746,680.9	1,910,067.6	2,497,346.3	926,849.4	1,154,886.1	[illegible]	439,307.7	[illegible],361.6	418,364.7	538,157.8	729,368.9

[a] Values are mean of three replicates.
[b] S = Surface, B = Bottom.
[c] See Table M-11 for synonomous name.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]

ST. LUCIE PLANT
25 JANUARY 1977

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	635,652.3 (41)	2,057,591.9 (44)	1,346,622.9 (43)	1,046,036.5 (51)	512,492.6 (24)	467,422.6 (25)	335,695.2 (32)	434,972.8 (32)	178,419.6 (30)	182,368.9 (23)	188,381.4 (23)	90,363.4 (19)	276,941.9 (22)	769,339.8 (30)	96,302.9 (14)	245,814.6 (30)
Pyrrhophyta (dinoflagellates)	20,330.4 (1)	76,155.6 (2)	48,243.0 (2)	11,423.4 (1)	24,165.2 (1)	16,035.3 (1)	25,714.9 (2)	25,201.3 (2)	9,158.7 (2)	27,446.1 (3)	17,185.0 (2)	6,732.0 (2)	10,706.9 (1)	12,032.7 (<1)	7,682.2 (1)	7,657.2 (1)
Chlorophyta (green algae)	40,616.4 (3)	50,770.4 (1)	45,693.4 (1)	34,270.0 (2)	50,699.1 (2)	100,064.0 (5)		27,416.0 (2)	13,708.0 (2)	22,846.7 (3)	32,366.2 (4)	16,231.1 (3)	48,530.7 (4)	76,048.7 (3)	26,654.5 (4)	28,558.4 (4)
Cyanophyta (blue-green algae)	88.9 (<1)	611.1 (<1)	350.0 (<1)			175.0 (<1)		20.0 (<1)	260.0 (<1)	140.0 (<1)		85.7 (<1)	183.3 (<1)	325.0 (<1)		58.3 (<1)
Euglenophyta (euglenoids)					5,336.7 (<1)		2,855.8 (<1)									
Cryptophyta (cryptophytes)	198,004.7 (13)	533,089.6 (11)	365,547.2 (12)	234,178.7 (11)	320,204.9 (15)	352,225.4 (19)	128,512.7 (12)	182,773.6 (13)	66,255.4 (11)	132,510.9 (17)	79,963.4 (10)	52,221.0 (11)	181,449.4 (14)	376,240.8 (15)	97,098.5 (15)	102,810.1 (13)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	15,231.1 (1)		7,615.6 (<1)	5,711.7 (<1)			2,855.8 (<1)	15,992.7 (1)	2,284.7 (<1)	2,284.7 (<1)	1,903.9 (<1)		2,668.4 (<1)	4,002.6 (<1)	5,711.7 (1)	1,903.9 (<1)
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	35,539.3 (2)	152,311.3 (3)	93,925.3 (3)	45,693.3 (2)	93,393.1 (4)	104,066.6 (5)	42,837.5 (4)	52,547.4 (4)	20,562.0 (3)	43,408.7 (6)	66,636.2 (8)	30,462.3 (6)	90,724.7 (7)	124,079.4 (5)	49,501.2 (7)	47,597.2 (6)
Unidentified phytoflagellates	578,783.1 (37)	1,726,195.0 (37)	1,152,489.1 (37)	645,419.2 (31)	1,083,360.1 (51)	812,520.1 (43)	491,204.0 (47)	603,152.9 (44)	301,861.2 (50)	347,269.8 (44)	418,856.2 (52)	274,160.4 (58)	635,073.1 (51)	1,112,712.2 (44)	386,490.0 (58)	369,355.0 (46)
Others	30,462.2 (2)	50,770.4 (1)	40,616.3 (1)	39,981.7 (2)	34,688.9 (2)	40,025.6 (2)	8,567.5 (1)	18,277.3 (1)	9,138.7 (2)	29,700.7 (4)	3,807.8 (<1)	4,351.8 (1)	8,005.1 (1)	56,035.9 (2)		3,807.8 (<1)
Total phytoplankton	1,584,708.4	4,647,495.3	3,101,102.8	2,062,714.5	2,124,340.6	1,892,534.6	1,038,243.4	1,360,354.0	603,648.3	787,976.5	809,100.1	475,607.7	1,253,783.8	2,530,817.1	669,441.0	807,562.5

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]

ST. LUCIE PLANT
15 FEBRUARY 1977

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	354,561.3 (35)	345,705.9 (32)	350,133.6 (33)	594,363.8 (45)	400,706.1 (30)	260,577.3 (28)	572,198.8 (41)	627,667.8 (44)	269,847.6 (35)	275,717.9 (33)	176,825.5 (29)	144,488.6 (32)	235,173.1 (30)	189,293.5 (28)	289,404.2 (29)	320,162.5 (38)
Pyrrhophyta (dinoflagellates)	2,855.8 (<1)	8,567.5 (1)	5,711.7 (1)	3,807.8 (<1)	21,347.1 (2)	17,789.1 (2)	29,385.4 (2)	21,347.0 (1)	14,680.3 (2)	16,014.4 (2)	9,626.0 (2)	7,484.7 (2)	23,491.6 (3)	16,030.2 (2)	22,846.4 (2)	26,439.6 (3)
Chlorophyta (green algae)	17,135.0 (2)	17,135.0 (2)	17,135.0 (2)	16,231.0 (1)	53,367.5 (4)	42,694.0 (5)	21,347.0 (2)	24,015.4 (2)	48,030.7 (6)	56,035.9 (7)	51,232.8 (9)	23,481.6 (5)	45,896.0 (6)	52,300.1 (8)	21,214.8 (2)	31,220.0 (4)
Cyanophyta (blue-green algae)	137.5 (<1)	212.5 (<1)	200.0 (<1)	166.7 (<1)	200.0 (<1)	72.2 (<1)		100.0 (<1)	29.2 (<1)	25.0 (<1)	93.3 (<1)	10.6 (<1)	90.0 (<1)	90.0 (<1)	407.1 (<1)	45.0 (<1)
Euglenophyta (euglenoids)					2,668.4 (<1)										1,631.9 (<1)	
Cryptophyta (cryptophytes)	108,521.8 (11)	145,647.7 (13)	127,084.8 (12)	83,771.2 (6)	234,816.9 (17)	122,745.2 (13)	154,765.7 (11)	141,423.9 (10)	86,722.2 (11)	81,385.4 (10)	61,906.3 (10)	36,289.9 (8)	87,522.7 (11)	65,108.3 (10)	97,914.4 (10)	103,266.1 (12)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	5,711.6 (1)	5,711.6 (1)	5,711.6 (1)		5,336.7 (<1)	5,336.7 (1)	2,668.4 (<1)	8,005.1 (1)			1,067.3 (<1)	1,067.3 (<1)	1,067.3 (<1)	2,134.7 (<1)	8,159.5 (1)	7,204.7 (1)
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	34,270.0 (3)	65,684.3 (6)	49,977.2 (5)	34,270.0 (3)	64,041.0 (5)	58,704.2 (6)	37,357.2 (3)	34,688.9 (2)	12,007.7 (2)	21,347.0 (3)	23,481.6 (4)	14,942.8 (3)	34,155.1 (4)	39,491.9 (6)	39,165.7 (4)	52,833.9 (6)
Unidentified phytoflagellates	491,203.9 (48)	485,492.3 (45)	488,348.1 (46)	571,167.5 (43)	563,027.0 (42)	398,477.2 (43)	571,032.2 (41)	565,695.4 (39)	328,210.0 (43)	378,909.2 (45)	274,308.8 (46)	220,941.4 (49)	346,888.6 (45)	306,329.3 (45)	520,578.4 (52)	304,995.2 (36)
Others	8,567.5 (1)	5,711.7 (1)	7,139.6 (1)	11,423.3 (1)	5,336.7 (<1)	16,010.2 (2)	16,010.2 (1)	16,010.2 (1)	4,002.6 (1)	5,336.8 (1)	1,067.3 (<1)	1,067.3 (<1)	2,134.7 (<1)	3,202.0 (<1)	4,895.7 (<1)	
Total phytoplankton	1,022,964.4	1,079,868.5	1,051,416.5	1,314,201.3	1,350,847.4	922,406.1	1,404,764.9	1,438,953.6	767,530.3	834,771.6	599,608.9	449,773.6	776,419.1	673,980.0	1,006,218.3	846,167.0

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
11 MARCH 1977

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	412,448.8 (58)	323,584.2 (53)	368,016.5 (56)	255,428.8 (45)	544,776.4 (58)	1,283,491.0 (76)	491,273.0 (59)	890,484.5 (61)	209,189.8 (38)	617,407.8 (58)	215,398.4 (50)	235,055.3 (54)	319,181.5 (51)	1,709,985.3 (80)	365,953.6 (45)	1,629,665.4 (70)
Pyrrhophyta (dinoflagellates)	11,431.7 (2)	8,579.9 (1)	10,005.6 (2)	2,954.1 (1)	24,075.3 (3)	16,110.2 (1)	22,984.1 (3)	23,021.7 (2)	10,370.8 (2)	16,043.7 (1)	16,071.6 (4)	14,270.6 (3)	20,903.2 (3)	18,678.6 (1)	8,679.9 (1)	38,111.1 (2)
Chlorophyta (green algae)	17,226.7 (2)	17,135.0 (3)	17,180.9 (3)	2,929.1 (1)	12,808.2 (1)	10,006.4 (1)	5,711.7 (1)	22,846.7 (2)	6,861.5 (1)	5,336.7 (<1)	14,231.3 (3)	14,231.3 (3)	6,404.1 (1)	5,370.0 (<1)	8,567.5 (1)	22,846.7 (1)
Cyanophyta (blue-green algae)	666.7 (<1)		333.4 (<1)	50.0 (<1)	60.0 (<1)	187.5 (<1)	125.0 (<1)		1101.2 (<1)		66.7 (<1)	16.7 (<1)	10.0 (<1)	66.7 (<1)		
Euglenophyta (euglenoids)					3202.0 (<1)											
Cryptophyta (cryptophytes)	19,038.9 (3)	11,423.3 (2)	15,231.1 (2)	38,077.8 (7)	46,429.7 (5)	52,033.3 (3)	28,558.3 (3)	22,846.7 (2)	67,471.6 (12)	56,035.8 (5)	17,789.2 (4)	12,452.4 (3)	44,828.7 (7)	56,035.9 (3)	42,837.5 (5)	64,732.3 (3)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)						4002.5 (<1)			1143.6 (<1)		1778.9 (<1)		1601.0 (<1)		2855.8 (<1)	
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	9,519.5 (1)	8,567.5 (1)	9,043.5 (1)	8,787.2 (2)	16,010.2 (2)	14,009.0 (1)	8,567.5 (1)		17,153.9 (3)	2,668.4 (<1)	5,336.8 (1)	889.5 (<1)	9,606.1 (2)	5,336.7 (<1)	19,990.8 (2)	7,615.6 (<1)
Unidentified phytoflagellates	226,563.1 (32)	231,322.9 (38)	228,943.0 (35)	254,828.6 (45)	296,189.6 (31)	286,183.2 (17)	265,592.8 (32)	479,780.7 (33)	231,005.0 (42)	373,572.4 (35)	158,323.6 (37)	159,213.0 (37)	216,138.4 (35)	325,541.7 (15)	354,123.8 (44)	536,897.4 (23)
Others	11,423.4 (2)	5,711.7 (1)	8,567.6 (1)	2,929.1 (1)	1,601.0 (<1)	16,010.2 (1)	5,711.7 (1)	11,423.3 (1)	1,143.6 (<1)		1,778.9 (<1)		4,803.1 (1)	18,678.6 (1)	5,711.7 (1)	34,270.0 (1)
Total phytoplankton	708,318.8	606,324.5	657,321.7	565,984.7	945,152.4	1,682,033.3	828,523.9	1,450,403.6	545,447.2	1,071,064.8	430,775.4	436,128.8	623,476.1	2,139,693.5	808,720.6	2,334,138.5

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
19 APRIL 1977

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	721, 779.4 (62)	521, 645.8 (59)	621, 462.6 (61)	836, 923.5 (55)	455, 239.8 (63)	1,044, 082.4 (71)	597, 479.1 (51)	719, 617.1 (57)	247, 509.1 (50)	194, 727.6 (45)	89, 096.3 (12)	143, 817.9 (20)	171, 125.4 (41)	191, 947.3 (47)	245, 253.2 (39)	239, 435.7 (49)
Pyrrhophyta (dinoflagellates)	12,714.7 (1)	30,487.3 (3)	21,601.0 (2)	35,550.4 (2)	14,459.2 (2)	18,728.6 (1)	26,767.1 (2)	38,099.3 (3)	14,969.4 (3)	23,198.4 (5)	14,969.4 (2)	26,703.6 (4)	17,104.3 (4)	17,090.9 (4)	13,935.5 (2)	21,366.8 (4)
Chlorophyta (green algae)	43,299.2 (4)	64,732.3 (7)	54,015.8 (5)	96,463.8 (6)		16,010.2 (1)	21,347.0 (2)	12,007.7 (1)	17,077.5 (3)	11,562.9 (3)	12,838.2 (2)	39,491.9 (6)	22,414.3 (5)	8,538.5 (2)	6,404.1 (1)	23,461.7 (5)
Cyanophyta (blue-green algae)	166.7 (<1)	66.7 (<1)	116.7 (<1)	344.5 (<1)	190.0 (<1)	266.7 (<1)	150.0 (<1)	125.0 (<1)		666.7 (<1)	126.7 (<1)	26.7 (<1)			13.3 (<1)	1,093.3 (<1)
Euglenophyta (euglenoids)				2,538.5 (1)		2,668.4 (<1)	2,668.4 (<1)			889.5 (<1)						
Cryptophyta (cryptophytes)	30,462.3 (3)	26,654.5 (3)	28,558.4 (3)	48,231.9 (3)	46,420.7 (6)	74,714.5 (5)	96,061.5 (8)	88,056.4 (7)	28,818.4 (6)	43,583.4 (10)	60,838.9 (8)	74,714.5 (10)	13,875.5 (3)	27,751.1 (7)	43,761.3 (7)	45,896.0 (9)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)				2,538.5 (<1)	4,803.1 (1)				53,367.5 (11)	1,778.9 (<1)	294,588.5 (39)	1,067.1 (<1)		7,471.4 (2)	67,243.0 (11)	
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	30,462.3 (3)	11,423.4 (1)	20,942.9 (2)	38,077.8 (3)	6,404.1 (1)	10,673.5 (1)	5,336.8 (<1)	34,021.7 (3)	5,336.7 (1)	11,562.9 (3)	22,414.3 (3)	18,144.9 (3)	3,202.0 (1)	3,202.0 (1)	12,808.1 (2)	4,269.4 (1)
Unidentified phytoflagellates	317, 315.2 (27)	230, 370.9 (26)	273, 843.1 (27)	436, 625.8 (29)	168, 107.6 (23)	296, 189.5 (20)	400, 256.1 (34)	358, 279.3 (28)	120, 610.5 (25)	139, 645.0 (32)	261, 500.6 (34)	406, 660.2 (57)	183, 584.1 (44)	147, 294.2 (36)	232, 682.2 (37)	139, 822.8 (29)
Others		3,807.8 (<1)	1,903.9 (<1)	15,231.1 (1)	22,414.3 (3)	2,668.4 (<1)	13,341.8 (1)	10,006.4 (1)	4,269.4 (1)	3,557.8 (1)	2,134.7 (<1)	6,404.1 (1)	5,336.7 (1)	4,269.4 (1)	6,404.1 (1)	13,875.5 (3)
Total phytoplankton	1,155, 999.8	889, 188.7	1,022, 444.4	1,512, 525.8	718, 047.8	1,466, 002.2	1,163, 407.8	1,260, 162.9	491, 958.5	431, 173.1	758, 477.6	717, 031.1	416, 642.3	407, 565.1	628, 504.8	489, 241.2

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
10 MAY 1977

TAXON	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	169, 504.7 (15)	288, 127.9 (30)	228, 816.3 (22)	304, 756.0 (43)	250, 564.0 (27)	254, 293.8 (28)	352, 659.0 (35)	6[illegible], 076.2 (39)	162, 954.2 (23)	258, 254.6 (24)	108, 219.1 (17)	167, 395.5 (21)	199, 002.0 (31)	206, 160.3 (25)	107, 299.8 (23)	364, 670.4 (38)
Pyrrhophyta (dinoflagellates)	62,828.4 (5)	48,462.4 (5)	55,645.4 (5)	19,038.9 (3)	86,912.8 (9)	62,045.7 (7)	54,701.9 (5)	52,033.4 (3)	57,370.3 (8)	46,439.7 (4)	45,370.8 (7)	67,598.6 (8)	68,068.6 (11)	50,339.3 (6)	42,026.8 (9)	27,029.7 (3)
Chlorophyta (green algae)	129, 464.7 (11)	81, 694.3 (9)	105, 579.5 (10)	34, 328.3 (5)	10, 292.3 (1)	13, 008.3 (1)	25, 349.6 (3)	41, 359.8 (3)	26, 683.8 (4)	43, 327.7 (4)	29, 352.1 (5)	16, 010.2 (2)	56, 035.9 (9)	37, 738.4 (5)	22, 014.0 (5)	44, 028.2 (5)
Cyanophyta (blue-green algae)		36.4 (<1)	18.2 (<1)	166.7 (<1)	25.0 (<1)	3.1 (<1)	41.7 (<1)		8.3 (<1)	20.0 (<1)		11.1 (<1)		21.4 (<1)	25.0 (<1)	68.8 (<1)
Euglenophyta (euglenoids)		2,769.2 (<1)	1,384.6 (<1)		1,143.5 (<1)				1,334.2 (<1)							
Cryptophyta (cryptophytes)	167, 542.5 (15)	135, 695.6 (14)	151, 619.1 (14)	123, 752.9 (18)	150, 953.8 (16)	125, 080.0 (14)	122, 745.2 (12)	173, 444.4 (11)	122, 745.2 (17)	204, 931.1 (19)	109, 403.4 (18)	183, 228.4 (23)	41, 359.8 (6)	120, 076.9 (15)	77, 049.3 (16)	140, 089.6 (15)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	13,327.2 (1)	1,384.6 (<1)	7,355.9 (1)		2,287.2 (<1)	1,000.6 (<1)		8,005.2 (1)	5,336.8 (1)	6,404.0 (1)		3,557.8 (<1)			2,001.3 (<1)	2,001.3 (<1)
Haptophyceae (haptophytes including coccolithophores)	13,327.2 (1)		6,663.6 (1)								2,668.4 (<1)					
Prasinophyceae (prasinophytes)	66,636.2 (6)	59,539.9 (6)	63,088.1 (6)	11,423.4 (2)	38,882.1 (4)	29,018.6 (3)	29,352.1 (3)	81,385.4 (5)	25,349.6 (4)	30,419.5 (3)	21,347.0 (3)	28,462.7 (4)	21,347.0 (3)	35,451.3 (4)	20,012.8 (4)	37,023.6 (4)
unidentified phytoflagellates	523, 570.2 (46)	330, 930.9 (35)	427, 250.6 (41)	196, 100.8 (28)	376, 240.9 (41)	393, 251.6 (44)	397, 587.9 (40)	585, 708.1 (37)	306, 863.1 (43)	483, 509.5 (45)	294, 655.5 (47)	327, 320.5 (41)	241, 487.9 (38)	353, 369.0 (43)	198, 126.7 (42)	335, 214.5 (35)
Others	1,903.9 (<1)	2,769.3 (<1)	2,336.6 (<1)	13,327.2 (2)	6,861.5 (1)	22,014.1 (2)	13,341.9 (1)	12,007.7 (1)	4,002.6 (1)	9,606.1 (1)	10,673.5 (2)	12,452.4 (2)	14,676.1 (2)	13,723.1 (2)	4,002.5 (1)	2,001.3 (<1)
Total phytoplankton	1,148, 105.0	951, 410.5	1,049, 757.9	702, 894.2	924, 163.2	899, 715.8	995, 779.3	1,568, 020.2	712, 648.1	1,082, 912.2	621, 889.8	806, 037.2	641, 977.3	816, 879.7	472, 558.2	952, 127.4

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface, B = Bottom, Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
14 JUNE 1977

TAXON	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	160,637.7 (17)	453,401.6 (28)	307,019.7 (24)	133,696.1 (39)	75,120.7 (17)	168,838.4 (17)	392,419.8 (47)	255,952.8 (36)	484,992.7 (49)	112,896.7 (21)	117,100.6 (23)	92,135.5 (21)	356,915.2 (53)	67,585.8 (13)	1,383,176.3 (65)	229,517.4 (34)
Pyrrhophyta (dinoflagellates)	78,749.8 (8)	49,567.8 (3)	64,158.8 (5)	6,884.0 (2)	38,437.7 (9)	41,368.1 (4)	36,823.5 (4)	46,449.6 (7)	57,420.3 (6)	48,047.4 (9)	28,911.7 (6)	20,468.7 (5)	31,057.1 (5)	25,622.7 (5)	149,568.9 (7)	44,621.6 (7)
Chlorophyta (green algae)	81,299.4 (8)	102,810.1 (6)	92,054.8 (7)	11,423.4 (3)	53,134.8 (12)	64,041.0 (7)	70,445.1 (8)	56,035.9 (8)	61,389.3 (6)	33,354.7 (6)	75,781.2 (15)	31,131.0 (9)	38,024.3 (6)	27,751.1 (6)	77,916.5 (4)	33,164.1 (5)
Cyanophyta (blue-green algae)	133.3 (<1)	1,566.7 (<1)	850.0 (<1)	4,425.0 (1)	33.3 (<1)		850.0 (<1)	560.0 (<1)	250.0 (<1)	33.3 (<1)	73.3 (<1)	11.1 (<1)	1,006.3 (<1)	26.7 (<1)	40.0 (<1)	57.1 (<1)
Euglenophyta (euglenoids)		3,807.8 (<1)	1,903.9 (<1)				1,601.0 (<1)	1,601.0 (<1)	2,668.4 (<1)		2,134.7 (<1)		2,001.3 (<1)		1,067.3 (<1)	1,143.6 (<1)
Cryptophyta (cryptophytes)	78,694.2 (8)	102,810.1 (6)	90,752.2 (7)	13,708.1 (4)	27,751.1 (6)	149,429.0 (15)	40,025.6 (5)	70,445.1 (10)	44,028.2 (4)	53,367.5 (10)	17,077.6 (3)	28,462.7 (7)	27,017.3 (4)	44,828.7 (10)	28,818.4 (1)	59,466.6 (9)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	5,077.1 (1)		2,538.6 (<1)		6,404.0 (1)	1,334.2 (<1)	3,202.0 (<1)	6,404.1 (1)	2,668.4 (<1)	2,668.4 (<1)		1,778.9 (<1)	1,000.6 (<1)	1,067.3 (<1)	1,067.3 (<1)	5,718.0 (1)
Haptophyceae (haptophytes including coccolithophores																
Prasinophyceae (prasinophytes)	48,232.0 (5)	68,540.0 (4)	58,386.0 (5)		25,616.3 (6)	138,755.4 (14)	12,808.2 (2)	32,020.4 (5)	9,339.3 (1)	10,673.5 (2)	1,067.3 (<1)	15,120.9 (4)	4,002.5 (1)	26,683.7 (6)	6,404.1 (<1)	35,451.3 (5)
Unidentified phytoflagellates	517,858.5 (53)	833,904.6 (52)	675,881.6 (52)	169,065.7 (50)	214,537.3 (48)	408,261.3 (42)	273,775.1 (33)	238,552.6 (34)	321,539.2 (33)	289,518.6 (53)	257,231.3 (51)	211,691.2 (54)	211,135.2 (31)	277,510.9 (59)	470,701.2 (22)	261,881.9 (39)
Others					2,134.7 (<1)		1,601.0 (<1)		1,334.2 (<1)		1,067.3 (<1)	889.5 (<1)	2,001.3 (<1)	2,134.7 (<1)	2,134.7 (<1)	2,287.2 (<1)
Total phytoplankton	970,682.0	1,616,408.7	1,293,545.6	339,202.3	444,469.9	972,027.4	833,551.3	708,021.5	985,630.0	550,560.1	500,445.8	391,684.5	674,161.1	468,211.6	2,120,894.7	673,308.8

[a] Values are expressed as cells per liter and represent the mean of three replicates.
[b] Percentage values are given in parentheses.
[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]

ST. LUCIE PLANT
12 JULY 1977

TAXON	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	154,160.9 (22)	514,452.8 (36)	334,306.9 (31)	452,485.1 (54)	90,213.9 (23)	127,934.3 (20)	177,665.9 (33)	139,427.8 (27)	59,237.5 (27)	179,739.3 (33)	122,483.8 (33)	338,022.4 (50)	176,490.7 (40)	338,487.2 (45)	40,851.2 (13)	258,730.7 (34)
Pyrrhophyta (dinoflagellates)	32,647.4 (5)	34,286.7 (2)	33,467.1 (3)	53,342.3 (6)	38,118.2 (10)	37,708.9 (6)	20,346.2 (4)	25,642.9 (5)	18,712.0 (8)	3,684.8 (2)	32,037.3 (9)	4,252.6 (1)	28,496.0 (6)	26,755.9 (4)	18,019.9 (6)	22,681.2 (3)
Chlorophyta (green algae)	20,694.6 (3)	15,231.2 (1)	17,962.9 (2)	3,974.5 (<1)	9,005.7 (2)	8,805.7 ([illegible])	9,606.1 (2)	9,606.0 (2)	5,870.4 (3)	17,344.4 (3)	7,115.7 (2)	24,549.0 (4)	3,557.8 (1)	17,789.1 (2)	9,339.3 (3)	13,458.6 (2)
Cyanophyta (blue-green algae)	709.5 (<1)	6,157.8 (<1)	3,433.7 (<1)	25,266.7 (3)	100.0 (<1)	100.0 (<1)	620.0 (<1)	806.6 (<1)	243.3 (<1)	62.5 (<1)	177.8 (<1)	400.0 (<1)	11.7 (<1)	256.5 (<1)	25.0 (<1)	33.3 (<1)
Euglenophyta (euglenoids)	1,087.9 (<1)		544.0 (<1)		1,000.6 (<1)			1,067.3 (<1)						889.5 (<1)		
Cryptophyta (cryptophytes)	56,572.3 (8)	87,579.0 (6)	72,075.9 (7)	3,307.8 (<1)	36,023.1 (9)	94,460.4 (14)	39,491.9 (7)	62,973.6 (12)	13,341.9 (6)	50,032.0 (9)	25,794.3 (7)	3[illegible],357.2 (6)	26,683.7 (6)	60,483.2 (8)	36,023.1 (11)	129,416.2 (17)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae)					2,001.3 (<1)	800.5 (<1)			1,067.3 (<1)					889.5 (<1)	667.1 (<1)	2,668.4 (<1)
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	21,758.7 (3)	60,924.4 (4)	41,341.6 (4)	11,423.4 (1)	7,004.4 (2)	145,693.2 (22)	36,269.9 (7)	43,761.3 (8)	3,735.7 (2)	93,393.0 (17)	8,894.6 (2)	25,616.[illegible] (4)	14,231.3 (3)	64,930.4 (9)	7,338.1 (2)	109,403.3 (14)
Unidentified phytoflagellates	422,120.0 (59)	696,824.3 (49)	559,472.2 (53)	289,391.5 (34)	202,129.3 (52)	236,951.7 (36)	251,894.5 (47)	240,153.6 (46)	119,543.2 (54)	200,128.1 (36)	177,002.2 (47)	241,221.[illegible] (36)	196,570.2 (44)	241,043.2 (32)	204,130.7 (65)	217,472.6 (29)
Others					2,001.3 (1)	2,401.6 (<1)				1,334.2 (<1)	889.5 (<1)	1,067.[illegible] (<1)				8,005.1 (1)
TOTAL PHYTOPLANKTON	709,751.8	1,415,456.2	1,062,604.3	840,691.3	387,597.8	654,906.2	536,114.5	523,439.1	221,751.3	550,718.3	374,395.2	673,315.[illegible]	446,040.8	751,623.5	316,394.4	761,869.4

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
23 AUGUST 1977

STATION AND DEPTH[c]

TAXON	11 S	11 B	AVG.	12 S	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	169,055.4 (18)	437,375.4 (20)	303,215.4 (23)	196,426.4 (52)	73,255.0 (24)	182,539.2 (33)	167,284.4 (27)	155,429.6 (23)	126,105.6 (34)	107,912.2 (20)	227,039.9 (23)	147,954.0 (18)	142,848.1 (26)	171,973.2 (26)	81,469.6 (20)	126,025.4 (21)
Pyrrhophyta (dinoflagellates)	28,558.4 (3)	17,135.0 (1)	22,846.7 (2)	7,615.6 (2)	6,404.1 (2)	8,545.4 (2)	13,350.3 (2)	10,018.9 (2)	14,248.2 (4)	11,207.2 (2)	30,017.7 (3)	70,582.1 (2)	9,606.1 (2)	18,678.7 (3)	20,955.2 (5)	21,323.6 (4)
Chlorophyta (green algae)	20,942.8 (2)	85,675.1 (5)	53,309.0 (4)	15,339.4 (4)	11,207.1 (4)	27,751.0 (5)	20,012.8 (3)	36,023.1 (5)	22,236.5 (6)	32,020.5 (6)	31,414.2 (3)	41,124.1 (5)	36,823.6 (7)	24,015.4 (4)	31,414.2 (8)	70,063.2 (12)
Cyanophyta (blue-green algae)	233.3 (<1)	875.0 (<1)	554.2 (<1)	6,041.1 (2)	30.0 (<1)		3,325.9 (1)	87.5 (<1)	5.6 (<1)	40.0 (<1)	37.5 (<1)		160.0 (<1)	50.0 (<1)		
Euglenophyta (euglenoids)											1,427.9 (4)					
Cryptophyta (cryptophytes)	78,059.5 (8)	79,963.4 (5)	79,011.5 (6)	15,231.1 (4)	18,411.8 (6)	75,781.8 (14)	89,390.5 (14)	84,053.8 (13)	21,347.0 (6)	104,066.6 (20)	34,270.0 (3)	100,525.5 (12)	38,424.6 (7)	98,729.9 (15)	5,711.7 (1)	54,832.1 (9)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae)					3,202.0 (1)	1,067.3 (<1)	1,334.2 (<1)									
Haptophyceae (haptophytes including coccolithophores)																
Prasingphyceae (prasinophytes)	30,462.2 (3)	28,558.3 (2)	29,510.3 (2)	1,903.9 (1)	3,202.0 (1)	26,683.7 (5)	38,691.4 (6)	8,005.1 (1)	1,779.0 (<1)	4,803.0 (1)		11,422.3 (1)	1,601.0 (<1)	8,005.2 (1)	1,903.8 (<1)	15,231.1 (3)
Unidentified phytoflagellates	630,188.1 (66)	1,005,254.7 (61)	817,721.4 (63)	137,080.2 (36)	191,322.5 (62)	210,267.8 (38)	284,181.9 (46)	368,235.7 (56)	185,007.3 (50)	264,169.1 (50)	676,833.6 (68)	504,912.0 (61)	323,407.0 (58)	325,541.7 (50)	262,737.0 (65)	319,853.8 (53)
Others						14,942.9 (3)	1,334.2 (<1)		889.5 (<1)	6,404.1 (1)				2,668.4 (<1)		1,523.1 (<1)
Total phytoplankton	957,499.7	1,654,836.9	1,306,168.3	379,637.7	307,034.5	547,579.1	618,905.6	661,853.7	371,618.7	530,622.7	1,001,040.8	826,521.0	552,870.4	649,662.5	404,191.5	608,852.3

[a] Values are expressed as cells per liter and represent the mean of three replicates, except 48 which is the mean of two replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]

ST. LUCIE PLANT
13 SEPTEMBER 1977

TAXON	STATION AND DEPTH[c] 11 S	11 B	11 AVG.	12 S	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	666,070.8 (54)	630,879.3 (47)	648,475.1 (50)	579,258.6 (70)	413,914.6 (52)	541,784.4 (60)	791,669.9 (55)	1,223,587.1 (57)	754,809.8 (52)	240,532.0 (36)	441,242.9 (50)	208,469.8 (31)	649,076.5 (55)	424,614.9 (51)	655,015.2 (61)	399,314.3 (43)
Pyrrhophyta (dinoflagellates)	26,654.4 (2)	45,693.3 (3)	36,197.9 (4)	38,094.5 (5)	32,086.9 (4)	23,125.8 (3)	57,116.7 (4)	79,963.4 (4)	69,394.3 (5)	26,700.5 (4)	45,730.9 (5)	31,414.1 (5)	66,709.4 (6)	26,717.2 (3)	50,699.1 (5)	37,374.0 (4)
Chlorophyta (green algae)	19,205.6 (2)	45,693.4 (3)	32,449.5 (2)	15,231.1 (2)	21,413.6 [illegible]	19,568.0 (2)	34,270.0 (2)	39,981.7 (2)	16,010.3 (1)	18,678.6 (3)	11,423.3 (1)	28,558.3 (4)	5,336.7 (<1)	37,357.2 (4)	21,347.0 (2)	45,362.4 (5)
Cyanophyta (blue-green algae)	150.0 (<1)	140.0 (<1)	145.0 (<1)	583.3 (<1)	44.5 (<1)		333.3 (<1)						100.0 (<1)			
Eygleonophyta (euglenoids)					1,778.9 (<1)		3,807.8 (<1)						5,336.8 (<1)			
Cryptophyta (cryptophytes)	26,654.4 (2)	36,554.7 (3)	31,604.6 (2)	11,423.3 (1)	42,694.0 (5)	32,020.5 (4)	38,077.8 (3)	34,270.0 (2)	56,035.9 (4)	64,041.0 (10)	19,990.8 (2)	34,270.0 (5)	45,362.4 (4)	29,352.1 (4)	24,015.3 (2)	48,030.7 (5)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)					1,778.9 (<1)				2,668.4 (<1)		5,711.7 (1)	8,567.5 (1)	2,668.4 (<1)		2,668.4 (<1)	
Haptophyceae (haptophytes including coccolithophotes)									2,668.4 (<1)							
Prasinophyceae (prasinophytes)	45,693.4 (4)	31,985.3 (2)	38,839.4 (3)	11,423.3 (1)	14,231.3 (2)	33,799.4 (4)	76,155.6 (5)	97,098.4 (5)	42,694.0 (3)	26,683.7 (4)	14,279.1 (2)	17,135.0 (3)	34,688.9 (3)	5,336.8 (1)	10,673.4 (1)	29,352.1 (3)
Unidentified phytoflagellates	449,318.4 (36)	539,182.1 (40)	494,250.3 (38)	163,734.6 (20)	266,837.4 (34)	256,163.9 (28)	441,702.8 (31)	651,130.9 (30)	506,991.1 (35)	282,847.7 (43)	342,700.5 (39)	345,556.3 (51)	365,567.3 (31)	312,199.8 (37)	304,194.6 (28)	368,235.6 (40)
Others		9,138.7 (1)	4,569.4 (<1)	11,423.3 (1)				11,423.3 (1)								2,668.4 (<1)
Total phytoplankton	1,233,747.0	1,339,266.8	1,286,507.2	831,172.0	794,780.1	906,462.0	1,443,133.9	2,137,454.8	1,451,272.2	659,483.5	881,079.2	673,971.0	1,174,846.4	835,578.0	1,068,613.0	930,337.5

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]

ST. LUCIE PLANT
11 OCTOBER 1977

TAXON	STATION AND DEPTH[c] 11 S	11 B	11 AVG.	12 S	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	455,628.4 (32)	571,653.1 (38)	513,640.8 (35)	1,116,529.7 (64)	431,388.6 (41)	2,158,692.1 (68)	527,495.6 (29)	672,065.2 (39)	336,875.0 (31)	240,113.4 (25)	277,047.5 (34)	350,151.9 (30)	345,452.0 (34)	401,953.8 (39)	288,335.4 (36)	415,374.5 (33)
Pyrrhophyta (dinoflagellates)	72,381.0 (5)	49,551.1 (3)	60,996.1 (4)	85,883.7 (5)	11,806.7 (1)	45,693.5 (1)	64,091.1 (4)	56,086.0 (3)	34,055.5 (3)	24,015.4 (2)	21,330.3 (3)	13,392.0 (1)	26,783.7 (3)	12,082.7 (1)	31,444.6 (4)	16,026.9 (1)
Chlorophyta (green algae)	65,399.0 (5)	58,200.0 (4)	61,799.5 (4)	67,469.5 (4)	39,011.1 (4)	23,613.4 (1)	45,928.2 (3)	73,921.1 (4)	59,170.9 (5)	81,401.2 (8)	34,235.2 (4)	97,828.2 (9)	49,230.7 (5)	44,028.2 (4)	46,366.0 (6)	90,573.1 (7)
Cyanophyta (blue-green algae)	783.0 (<1)	2,200.0 (<1)	1,491.7 (<1)	19,125.0 (1)	83.3 (<1)	809.0 (<1)	275.0 (<1)	1,100.0 (<1)	383.3 (<1)	250.0 (<1)	100.0 (<1)	116.7 (<1)	733.3 (<1)	75.0 (<1)	233.4 (<1)	333.3 (<1)
Euglenophyta (euglenoids)						7,615.6 (<1)						5,336.7 (<1)				
Cryptophyta (cryptophytes)	140,888.0 (10)	72,347.9 (5)	106,618.0 (7)	57,116.7 (3)	41,885.6 (4)	137,080.2 (4)	128,082.0 (7)	132,084.5 (8)	104,066.6 (9)	117,408.5 (12)	71,586.3 (9)	112,071.7 (10)	56,035.9 (5)	84,053.8 (8)	53,619.3 (7)	66,709.4 (5)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)							4,002.6 (4)		2,668.4 (4)	5,336.7 (1)						
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	26,654.5 (2)	45,693.3 (3)	36,173.9 (2)		15,231.0 (1)	91,386.8 (3)	32,020.6 (2)	20,012.8 (1)	13,341.9 (1)	18,678.6 (2)	3,046.2 (<1)	10,673.5 (1)	5,336.7 (1)	12,007.7 (1)	4,468.3 (1)	13,341.8 (1)
Unidentified phytoflagellates	677,785.5 (47)	693,016.5 (46)	685,401.0 (47)	399,817.2 (23)	517,858.5 (49)	708,247.6 (22)	1,012,648.1 (56)	780,499.6 (45)	547,016.7 (50)	474,970.7 (49)	411,240.6 (50)	557,711.3 (48)	536,343.2 (53)	476,304.9 (46)	384,271.6 (48)	653,751.8 (52)
Others				9,519.5 (1)		7,615.6 (<1)		4,002.6 (<1)				2,668.4 (<1)		4,002.6 (<1)		
Total Phytoplankton	1,439,519.7	1,492,661.9	1,466,091.0	1,755,461.3	1,057,264.8	3,180,744.8	1,814,543.2	1,739,771.8	1,098,378.3	962,174.5	818,586.1	1,149,950.4	1,019,915.5	1,034,508.7	808,738.6	1,256,110.8

[a] Values are expressed as cells per liter and represent the mean of three replicates, except 4B which is the mean of two replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]

ST. LUCIE PLANT
2 NOVEMBER 1977

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	3,986, 717.2 (8")	4,630, 604.1 (91)	4,308, 660.7 (89)	3,896, 771.7 (88)	4,860, 562.2 (80)	5,237, 546.7 (79)	5,446, 173.8 (84)	8,498, 725.3 (37)	4,076, 012.4 (68)	4,374, 950.1 (67)	3,814, 933.3 (65)	3,414, 843.9 (64)	2,158, 942.2 (79)	3,296, 156.4 (71)	4,009, 469.5 (77)	3,789, 074.3 (74)
Pyrrhophyta (dinoflagellates)	19,080.7 (<1)	28,558.5 (1)	23,819.6 (<1)		20,096.0 (<1)	6,754.3 (<1)	19,288.9 (<1)	45,693.4 (<1)	40,358.9 (1)		67,042.6 (1)	26,683.7 (1)	58,804.0 (2)	8,894.6 (<1)	166.7 (<1)	27,100.5 (1)
Chlorophyta (green algae)					13,341.9 (<1)	80,092.9 (1)			120,076.8 (2)	40,025.6 (1)	106,735.0 (2)	40,025.6 (1)	66.7 (<1)	35,578.3 (1)	80,051.2 (2)	53,367.5 (1)
Cyanophyta (blue-green algae)	833.3 (<1)	708.3 (<1)	770.8 (<1)	1,500.0 (<1)	750.0 (<1)	291.6 (<1)	1,166.7 (<1)	500.0 (<1)	750.0 (<1)	1,250.0 (<1)	2,083.3 (<1)	1,250.0 (<1)	1,000.0 (<1)	333.3 (<1)	833.3 (<1)	1,416.7 (<1)
Euglenophyta (euglenoids)										13,341.9 (<1)						
Crytophyta (cryptophytes)	76,155.6 (2)	47,597.3 (1)	61,876.5 (1)	38,077.8 (1)	226,811.8 (4)	126,747.8 (2)	57,116.7 (1)	68,540.1 (1)	226,811.8 (4)	213,469.9 (3)	186,786.2 (3)	213,469.9 (4)	64,041.0 (2)	160,102.5 (3)	186,786.2 (4)	80,051.2 (2)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	9,519.5 (4)		4,759.8 (<1)		6,670.9 (<1)	13,341.8 (<1)			13,341.9 (<1)	40,025.6 (1)	53,367.5 (1)	13,341.9 (<1)		26,683.7 (1)		13,341.9 (<1)
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	9,519.5 (<1)	9,519.5 (<1)	9,519.5 (<1)	19,038.9 (<1)	73,380.3 (1)	13,341.9 (<1)			40,025.6 (1)	13,341.9 (<1)	40,025.6 (1)	13,341.9 (<1)	48,030.7 (2)	35,578.3 (1)		26,683.7 (1)
Unidentified phytoflagellates	342,700.5 (7)	209,428.1 (4)	276,064.3 (6)	342,700.5 (8)	800,512.3 (13)	1,020, 653.2 (15)	723,478.8 (11)	913,967.9 (9)	1.387, 554.7 (23)	1.507, 631.6 (23)	1.360, 870.9 (23)	1,374, 212.8 (26)	288, 184.4 (11)	862,774.4 (19)	880,563.6 (17)	733.803.0 (14)
Others	161,830.8 (4)	180,869.7 (4)	171,350.3 (4)	133,272.4 (3)	46,696.5 (1)	153,431.5 (2)	228,467.0 (4)	205,620.3 (2)	120,076.8 (2)	293,521.1 (5)	226,811.8 (4)	226,811.8 (4)	112,071.7 (4)	222,364.5 (4)	66,709.4 (1)	426,939.9 (8)
Total Phytoplankton	4,606, 357.1	5,107, 285.5	4,856, 821.5	4,431, 361.3	6,048, 821.9	6,652, 201.7	6,475, 691.9	9,722, 947.0	6,025, 008.9	6,497, 557.7	5,858, 656.2	5,323, 981.5	2,731, 140.7	4,640, 466.0	5,224, 579.9	5,151, 778.7

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]

ST. LUCIE PLANT
1 DECEMBER 1977

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVG.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	626,218.0 (62)	2,974,744.9 (69)	1,800,481.5 (68)	477,131.1 (78)	591,846.0 (66)	630,871.6 (70)	73,486.9 (54)	1,011,754.0 (69)	268,553.9 (59)	44,997.7 (53)	101,492.0 (53)	163,142.9 (48)	106,363.6 (33)	104,551.0 (33)	235,285.3 (48)	175,721.0 (40)
Pyrrhophyta (dinoflagellates)	13,335.6 (1)	76,155.6 (2)	44,745.6 (2)	14,279.1 (2)	8,573.9 (1)	15,239.5 (2)	3,470.4 (3)	66,001.7 (4)	14,701.3 (3)	1,247.5 (1)	4,596.0 (2)	14,304.4 (4)	5,584.3 (2)	7,756.8 (2)	11,467.1 (2)	16,326.1 (4)
Chlorophyta (green algae)	26,654.4 (3)	50,770.4 (1)	38,712.5 (1)	11,423.3 (2)	28,589.6 (3)	22,921.7 (3)	3,482.2 (3)	30,506.7 (2)	6,577.6 (1)	3,389.9 (4)	7,615.5 (4)	56.3 (<1)	3,760.1 (1)	3,001.9 (1)	8,611.3 (2)	4,902.8 (1)
Cyamophyta (blue-green algae)	108.3 (<1)	4,555.5 (<1)	2,331.9 (<1)	625.0 (<1)	50.0 (<1)	308.3 (<1)	8.3 (<1)	66.7 (<1)	64.3 (<1)	18.9 (<1)	233.3 (<1)	56.3 (<1)	596.2 (<1)	51.8 (<1)	393.8 (<1)	164.3 (<1)
Euglenophyta (euglenoids)	1,903.9 (<1)		952.0 (<1)													
Cryptophyta (cryptophytes)	72,347.9 (7)	406,163.5 (9)	239,255.7 (9)	19,990.8 (3)	65,684.2 (7)	78,059.5 (9)	6,937.8 (5)	114,233.5 (8)	32,633.1 (7)	6,937.8 (8)	9,138.7 (5)	31,414.2 (9)	38,794.0 (12)	43,2[illegible].0 (13)	31,414.2 (6)	32,638.2 (7)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates	1,903.9 (<1)		952.0 (<1)			1,903.9 (<1)	266.8 (<1)	7,615.6 (1)	3,263.8 (1)	355.8 (<1)				593.0 (<1)	2,855.9 (1)	
Haptophyceae (haptophytes including coccolithophores)									9,791.4 (2)		21,323.5 (11)	28,558.4 (8)	16,010.3 (5)	40,322.1 (13)	52,833.0 (11)	70,172.0 (16)
Prasinophyceae (prasinophytes)	17,135.0 (2)		8,567.5 (<1)		11,423.4 (1)	5,7[illegible].7 (1)	4,002.5 (3)	40,616.5 (3)	6,527.6 (1)	177.9 (<1)	1,523.1 (1)	2,855.9 (1)	6,157.8 (2)	3,557.8 (1)	9,995.4 (2)	8,159.5 (2)
Unidentified phytoflagellates	237,986.5 (24)	685,400.9 (16)	461,693.7 (17)	71,395.9 (12)	185,629.4 (21)	140,888.0 (16)	44,828.6 (33)	198,004.7 (13)	114,233.5 (25)	27,395.3 (32)	44,170.3 (23)	92,814.7 (28)	143,476.3 (45)	116,815.4 (36)	138,508.2 (30)	133,816.4 (30)
Others	5,711.7 (1)	126,926.1 (3)	66,318.9 (2)	14,279.2 (2)	4,283.8 (<1)	9,519.4 (1)	533.7 (<1)	7,615.6 (1)		1,067.3 (1)	1,523.1 (1)	2,855.8 (1)	615.8 (<1)	1,185.9 (<1)	2,355.9 (1)	1,631.9 (<1)
TOTAL PHYTOPLANKTON	1,003,305.3	4,324,716.9	2,664,011.3	609,124.4	896,080.3	905,423.6	137,017.2	1,476,415.0	456,351.5	85,588.1	191,615.5	336,058.9	321,358.4	321,122.7	494,220.1	443,532.2

[a] Values are expressed as cells per liter and represent the mean of three replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; Avg. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
24 JANUARY 1978

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVE.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	1,259, 304.6 (44)	2,987, 889.8 (69)	2,123, 597.2 (57)	1,478, 259.3 (50)	1,297, 162.7 (57)	2,156, 806.2 (69)	1,479, 947.6 (61)	1,225, 617.9 (59)	1,001, 473.2 (53)	1,055, 953.1 (58)	1,261, 502.6 (64)	1,085, 508.9 (64)	485, 451.6 (46)	791, 963.3 (53)	869, 308.3 (50)	425, 886.3 (44)
Pyrrhophyta (dinoflagellates)	56, 546.1 (2)	15, 052.3 (<1)	35, 799.2 (1)	90, 313.8 (3)	40, 163.4 (2)	13, 387.8 (<1)	26, 692.3 (1)	24, 073.0 (1)	20, 144.5 (1)	32, 105.8 (2)	48, 171.0 (2)	48, 121.1 (3)	27, 662.4 (3)	15, 052.3 (1)	18, 865.4 (1)	15, 118.9 (2)
Chlorophyta (green algae)		60, 209.2 (1)	30, 104.6 (1)		68, 065.3 (3)	113, 484.0 (4)	101, 564.1 (4)	60, 182.7 (3)	60, 132.7 (3)	24, 123.0 (1)	44, 142.3 (2)	28, 176.9 (2)	2,508.7 (<1)	3,763.1 (<1)	3,763.1 (<1)	30, 126.7 (3)
Cyanophyta (blue-green algae)	67, 885.4 (2)	60, 475.9 (1)	64, 180.7 (2)	266.7 (<1)		583.3 (<1)			75.0 (<1)	100.0 (<1)		25.0 (<1)	5,017.4 (<1)	33.4 (<1)		
Euglenophyta (euglenoids)					8,007.6 (<1)		5,338.5 (<1)							3,763.1 (<1)	3,763.1 (<1)	
Cryptophyta (cryptophytes)	225, 784.6 (8)	270, 941.5 (6)	248, 363.1 (7)	301, 046.1 (10)	176, 169.1 (8)	93, 423.0 (3)	117, 445.1 (5)	156, 149.9 (7)	132, 126.9 (7)	116, 111.4 (6)	96, 092.3 (5)	68, 065.3 (4)	82, 787.7 (8)	150, 523.1 (10)	176, 864.6 (10)	155, 540.5 (16)
Xanthophyta (xanthophytes)													2,508.7 (<1)			
Chrysophyceae (yellow-brown algae and silicoflagellates)		30, 104.6 (1)	15, 052.3 (<1)	45, 156.9 (2)	4,003.8 (<1)		5,338.5 (<1)		8,007.8 (<1)	8,007.6 (<1)	4,003.8 (<1)	4,003.8 (<1)	7,526.2 (1)	15, 052.3 (1)	11, 289.2 (1)	25, 087.1 (3)
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	33, 867.7 (1)	30, 104.6 (1)	31, 986.2 (1)	165, 575.3 (6)	44, 042.2 (2)		53, 384.6 (2)	48, 046.2 (2)	48, 046.1 (3)	20, 019.2 (1)	24, 023.1 (1)	16, 015.4 (1)	32, 613.3 (3)	18, 815.4 (1)	30, 104.5 (2)	15, 052.3 (2)
Unidentified phytoflagellates	1,196, 658.4 (42)	888, 086.1 (20)	1,042, 372.3 (31)	857, 981.5 (29)	596, 572.7 (26)	687, 326.5 (22)	539, 184.3 (22)	556, 534.3 (27)	576, 553.5 (31)	512, 492.0 (28)	452, 434.4 (23)	396, 380.5 (23)	406, 412.3 (39)	485, 436.9 (32)	598, 329.2 (35)	291, 011.2 (30)
Others					36, 034.6 (2)	40, 038.4 (1)	106, 769.2 (4)	16, 015.4 (1)	28, 026.9 (1)	52, 050.0 (3)	40, 038.4 (2)	44, 042.3 (3)		22, 578.5 (1)	15, 052.3 (1)	5,017.4 (1)
Total phytoplankton	2,840, 046.8	4,342, 864.0	3,591, 455.6	2,938, 599.6	2,270, 221.4	3,105, 049.2	2,435, 665.3	2,086, 619.4	1,874, 592.6	1,820, 962.1	1,970, 407.9	1,690, 339.2	1,052, 488.3	1,509, 981.4	1,727, 339.7	962, 640.4

[a] Values are expressed as cells per liter and represent the mean of three replicates, except 2S which is the mean of two replicates.

[b] Percentage values are given in parentheses.

[c] S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
8 FEBRUARY 1978

TAXON	11 S	11 B	11 AVE.	12 S	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	1,270,793.8 (47)	2,319,042.6 (59)	1,794,918.2 (53)	1,055,787.2 (51)	1,375,612.0 (61)	1,712,133.9 (63)	2,031,737.2 (67)	1,941,769.7 (64)	1,271,085.3 (61)	3,138,581.0 (69)	384,313.4 (54)	1,062,911.9 (72)	408,7[illegible]6.9 (50)	1,000,163.1 (72)	462,845.4 (42)	456,043.8 (53)
Pyrrhophyta (dinoflagellates)	45,223.6 (2)	18,815.4 (<1)	32,019.5 (1)	83.4 (<1)	37,536.0 (2)	20,102.6 (1)	16,182.1 (1)	31,224.3 (1)	36,776.8 (2)	20,019.3 (<1)	32,410.4 (5)	9,491.0 (1)	21,536.5 (3)	5,039.6 (<1)	30,121.4 (3)	5,669.6 (1)
Chlorophyta (green algae)	15,052.3 (1)		7,526.2 (<1)	18,815.4 (1)	122,784.6 (5)	133,461.5 (5)	112,107.7 (4)	84,525.6 (3)	100,096.1 (5)	126,788.4 (3)					3,763.1 (<1)	
Cyanophyta (blue-green algae)	66.7 (<1)	250.0 (<1)	158.4 (<1)	166.7 (<1)	333.4 (<1)	166.6 (<1)	366.7 (<1)	388.9 (<1)	125.0 (<1)				5,875.8 (1)	1,111.1 (<1)	766.7 (<1)	
Euglenophyta (euglenoids)									3,336.5 (<1)			9,407.7 (1)				
Cryptophyta (cryptophytes)	285,993.9 (10)	319,861.5 (8)	302,927.7 (9)	159,930.8 (8)	154,815.3 (7)	113,442.3 (4)	160,153.7 (5)	75,628.1 (2)	73,403.8 (4)	93,423.0 (2)	64,509.9 (9)	65,853.9 (4)	80,637.4 (10)	60,209.2 (4)	97,840.0 (9)	73,380.0 (9)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	15,052.3 (1)		7,526.2 (<1)				10,676.9 (<1)	4,448.7 (<1)	13,346.1 (1)						22,576.5 (2)	
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	60,209.2 (2)	18,815.4 (<1)	39,512.3 (1)	47,038.5 (2)	26,692.3 (1)	6,673.1 (<1)	5,338.5 (<1)		6,673.1 (<1)	6,673.1 (<1)		9,407.7 (1)	16,127.5 (2)	10,034.9 (1)	18,815.4 (2)	11,289.2 (1)
Unidentified phytoflagellates	948,295.3 (35)	1,204,184.6 (30)	1,076,240.0 (33)	714,984.6 (35)	512,492.0 (23)	700,672.6 (26)	667,307.3 (22)	791,871.3 (26)	513,826.6 (25)	1,061,018.5 (23)	236,536.3 (33)	310,453.8 (21)	268,791.2 (33)	296,028.7 (21)	440,280.0 (40)	287,875.4 (34)
Others	90,313.8 (3)	75,261.6 (2)	82,787.7 (2)	56,446.2 (3)	42,707.6 (2)	46,711.5 (2)	26,692.3 (1)	102,320.5 (3)	60,057.6 (3)	126,788.4 (3)		9,407.7 (1)	16,127.5 (2)	25,087.2 (2)	26,341.6 (2)	22,578.4 (3)
Total phytoplankton	2,731,000.9	3,956,231.1	3,343,616.2	2,053,252.8	2,272,973.2	2,733,364.1	3,030,562.4	3,032,177.1	2,078,726.9	4,573,291.7	717,770.0	1,476,933.7	817,882.8	1,397,673.8	1,103,352.1	856,836.4

[a]Values are expressed as cells per liter and represent the mean of three replicates.

[b]Percentage values are given in parentheses.

[c]S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
15 MARCH 1978

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVE.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	651, 569.6 (54)	1,044, 254.1 (54)	847, 911.9 (54)	585, 637.3 (76)	854, 953.1 (54)	863, 226.7 (50)	520, 984.1 (54)	1,045, 171.0 (71)	616, 607.4 (51)	439, 478.1 (50)	419, 463.0 (55)	472, 553.3 (52)	486, 188.4 (60)	462, 944.2 (60)	782, 345.6 (72)	535, 276.0 (70)
Pyrrhophyta (dinoflagellates)	35, 235.6 (3)	28, 223.1 (1)	31, 729.4 (2)	22, 944.4 (3)	27, 626.9 (2)	39, 138.8 (2)	23, 806.0 (2)	33, 923.2 (2)	11, 444.7 (1)	20, 972.6 (2)	20, 019.3 (3)	20, 019.2 (2)	6,673.1 (1)	16, 682.6 (2)	28, 228.2 (3)	14, 057.4 (2)
Chlorophyta (green algae)				1,393.7 (<1)					46, 902.3 (4)	39, 085.2 (4)	28, 598.9 (4)	40, 991.7 (4)	44, 804.9 (6)	25, 858.1 (3)		1,081.3 (<1)
Cyanophyta (blue-green algae)	2,017.0 (<1)		1,008.5 (<1)										953.3 (<1)			
Euglenophyta (euglenoids)	8,400.0 (1)		4,200.0 (<1)	3,010.5 (<1)			1,763.9 (<1)		1,144.0 (<1)	2,859.9 (<1)	953.3 (<1)		953.3 (<1)	1,668.3 (<1)	1,128.9 (<1)	1,081.3 (<1)
Cryptophyta (cryptophytes)	132, 418.0 (11)	338, 676.9 (18)	235, 547.5 (15)	47, 170.8 (6)	105, 513.4 (7)	283, 993.6 (16)	128, 911.2 (13)	105, 217.9 (7)	89, 228.5 (7)	91, 516.4 (10)	49, 571.4 (6)	101, 049.4 (11)	40, 038.4 (5)	76, 740.4 (10)	84, 669.2 (8)	54, 067.2 (7)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	1,685.0 (<1)		842.5 (<1)		2,138.1 (<1)	2,565.7 (<1)			2,287.9 (<1)	3,813.2 (<1)		2,859.9 (<1)	1,906.6 (<1)	834.1 (<1)		
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	28, 570.1 (2)	28, 223.1 (1)	28, 396.6 (2)	8,808.4 (1)	28, 611.7 (2)	61, 771.0 (4)	22, 128.2 (2)	17, 295.3 (1)	30, 886.8 (3)	27, 645.6 (3)	24, 785.7 (3)	27, 645.6 (3)	11, 439.6 (1)	25, 858.1 (3)	23, 707.4 (2)	14, 057.4 (2)
Unidentified phytoflagellates	343, 781.3 (28)	338, 676.9 (18)	341, 229.1 (23)	93, 247.7 (12)	576, 126.7 (36)	483, 752.3 (28)	269, 041.8 (28)	263, 267.1 (18)	398, 096.5 (33)	252, 623.5 (29)	223, 071.3 (29)	250, 716.9 (27)	217, 351.5 (27)	165, 158.6 (21)	167, 080.6 (15)	150, 306.8 (20)
Others	5,030.1 (<1)	141, 115.4 (7)	73, 072.8 (5)	4,198.6 (1)		2,106.2 (<1)	1,567.9 (<1)	3,003.0 (<1)	3,431.9 (<1)	1,906.6 (<1)			953.3 (<1)			
Total phytoplankton	1,208, 706.7	1,919, 169.5	1,563, 938.3	766, 411.4	1,594, 969.9	1,736, 554.3	968, 203.1	1,467, 877.5	1,200, 030.0	879, 901.1	766, 462.9	915, 836.0	811, 262.4	775, 744.4	1,087, 159.9	769, 927.4

[a] Values are expressed as cells per liter and represent the mean of three replicates, except 11B which is composed of a single replicate.

[b] Percentage values are given in parentheses.

[c] S = Surface; B= Bottom; AVE. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
25 APRIL 1978

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVE.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	16,002 028.4 (88)	6,648 102.6 (85)	11,325, 065.5 (87)	5,125, 310.7 (83)	1,132, 263.1 (73)	2,209 528.8 (85)	1,172, 830.1 (75)	6,333, 900.4 (89)	800, 778.9 (80)	1,097, 567.3 (85)	636, 814.7 (82)	1,651, 125.8 (87)	953, 159.5 (85)	1,772, 206.0 (83)	942, 843.4 (70)	2,142, 057.0 (83)
Pyrrhophyta (dinoflagellates)	346, 999.8 (2)	78, 397.5 (1)	212, 698.7 (2)	82, 804.6 (1)	97, 260.1 (6)	50, 418.7 (2)	76, 672.4 (5)	94, 535.3 (1)	84, 354.2 (8)	62, 917.5 (5)	22, 879.0 (3)	41, 945.1 (2)	40, 055.2 (4)	41, 954.3 (2)	57, 104.1 (4)	68, 637.4 (3)
Chlorophyta (green algae)	106, 769.1 (1)	15, 679.5 (<1)	61, 224.3 (<1)	112, 892.3 (2)	40, 372.1 (3)	20, 760.7 (1)	29, 361.5 (2)	166, 826.8 (2)	21, 353.8 (2)	13, 981.7 (1)	17, 540.7 (2)	11, 439.6 (1)	13, 346.2 (1)	37, 750.5 (2)	57, 091.8 (4)	25, 739.0 (1)
Cyanophyta (blue-green algae)		31, 359.0 (<1)	15, 679.5 (<1)					1,390.2 (<1)								
Euglenophyta (euglenoids)	40, 038.4 (<1)		20, 019.2 (<1)	7,526.2 (<1)	1,835.1 (<1)	2,965.8 (<1)			1,067.7 (<1)			1,906.6 (<1)				
Cryptophyta (cryptophytes)	320, 307.5 (2)	47, 038.5 (1)	183, 673.0 (1)	82, 787.7 (1)	82, 579.3 (5)	62, 282.0 (2)	42, 411.1 (3)	88, 974.3 (1)	12, 812.3 (1)	15, 379.8 (1)	9,914.3 (1)	24, 785.7 (1)	8,897.4 (1)	52, 431.3 (2)	47, 304.7 (4)	60, 057.7 (2)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)																
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	93, 423.0 (1)		46, 711.5 (<1)	75, 261.6 (1)	16, 515.9 (1)	2,965.8 (<1)	3,262.4 (<1)	5,560.9 (<1)	1,067.7 (<1)			3,813.2 (<1)			1,631.2 (<1)	
Unidentified phytoflagellates	1,361, 306.9 (7)	956, 448.7 (12)	1,158, 877.8 (10)	692, 406.3 (11)	181, 674.4 (12)	213, 538.3 (8)	233, 261.0 (15)	422, 628.0 (6)	75, 806.1 (8)	99, 269.9 (8)	91, 516.4 (12)	160, 153.8 (8)	107, 881.3 (10)	218, 114.1 (10)	231, 629.8 (17)	237, 370.8 (9)
Others					1,835.1 (<1)	44, 487.1 (2)	3,262,4 (<1)		3,203.1 (<1)	4,194.5 (<1)	762.6 (<1)	9,533.0 (1)	2,224.3 (<1)	6,291.8 (<1)	4,893.6 (<1)	34, 318.6 (1)
Total phytoplankton	18,270 873.1	7,777, 025.8	13,023, 949.5	6,178, 989.4	1,554, 335.1	2,606, 947.2	1,561, 060.9	7.113, 815.9	1,000, 443.8	1,293, 310.7	779, 427.7	1,904, 702.8	1,125, 563.9	2,128, 748.0	1,342, 498.6	2,568, 180.5

[a]Values are expressed as cells per liter and represent the mean of three replicates.

[b]Percentage values are given in parentheses.

[c]S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
17 MAY 1978

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVE.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	22,955,370.1 (95)	5,832,265.8 (85)	14,393818.0 (90)	9,620,346.8 (64)	2,070,559.3 (82)	3,306,285.3 (80)	2,462,364.4 (81)	3,231,101.8 (75)	2,250,160.1 (77)	3,147,037.6 (84)	1,901,826.0 (82)	2,800,021.1 (85)	3,002,882.9 (88)	3,930,292.7 (92)	3,106,982.4 (87)	3,475,336.0 (86)
Pyrrhophyta (dinoflagellates)	120,115.2 (<1)	86,750.0 (1)	103,432.6 (1)	100,C96.2 (1)	29,742.8 (1)	67,620.5 (2)	124,119.4 (4)	136,130.5 (3)	61,400.5 (2)	21,353.8 (1)	15,570.5 (1)	61,392.2 (2)	32,030.7 (1)	35,233.9 (1)	64,061.6 (2)	38,436.9 (1)
Chlorophyta (green algae)	66,730.7 (<1)	126,788.4 (2)	96,759.6 (1)	33,365.4 (<1)	22,879.1 (1)	39,148.7 (1)	32,030.8 (1)	[illegible]2,030.7 (1)	53,384.6 (2)	10,677.0 (<1)	31,141.0 (1)	13,346.1 (<1)	29,361.5 (1)	28,827.7 (1)	51,249.2 (1)	44,843.0 (1)
Cyanophyta (blue-green algae)		11,344.3 (<1)	5,672.2 (<1)	11,121.8 (<1)								2,669.2 (<1)		3,203.1 (<1)		3,203.1 (<1)
Euglenophyta (euglenoids)							4,003.9 (<1)									
Cryptophyta (cryptophytes)	133,461.4 (1)	180,173.0 (3)	156,817.2 (2)	244,679.3 (2)	112,107.6 (4)	74,738.4 (2)	116,111.5 (4)	192,184.5 (4)	136,130.7 (5)	69,400.0 (2)	82,301.2 (4)	117,446.1 (4)	74,738.4 (2)	38,436.9 (1)	83,279.9 (2)	64,061.5 (2)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	13,346.1 (<1)		6,673.1 (<1)		2,287.9 (<1)		4,003.9 (<1)		5,338.5 (<1)	2,669.2 (<1)	8,897.4 (<1)	5,338.4 (<1)	2,669.2 (<1)	6,406.1 (<1)		
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	66,730.7 (<1)	6,673.1 (<1)	36,701.9 (<1)	244,679.3 (2)	16,015.4 (1)	103,210.2 (2)	64,061.6 (2)	88,084.5 (2)	61,392.2 (2)	64,061.5 (2)	13,346.2 (1)	34,699.9 (1)	34,699.9 (1)	22,421.5 (1)	12,812.3 (<1)	12,812.3 (<1)
Unidentified phytoflagellates	880,845.6 (4)	613,922.7 (9)	747,384.2 (7)	1,145,544.2 (10)	281,413.0 (11)	540,963.8 (13)	244,234.5 (8)	604,580.4 (14)	344,330.6 (12)	421,738.2 (11)	278,044.7 (12)	253,576.7 (8)	218,876.9 (6)	217,809.0 (5)	237,027.5 (7)	384,369.0 (10)
Others	13,346.1 (<1)		6,673.1 (<1)		2,287.9 (<1)											3,203.1 (<1)
Total phytoplankton	24,249,945.9	6,857,917.3	15,553,931.9	11,399,833.0	2,537,293.0	4,131,966.9	3,050,930.0	4,284,112.4	2,912,137.2	3,736,937.3	2,331,127.0	3,288,489.7	3,395,259.5	4,282,630.9	3,555,412.9	4,026,264.9

[a]Values are expressed as cells per liter and represent the mean of three replicates.

[b]Percentage values are given in parentheses.

[c]S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
21 JUNE 1978

TAXON	STATION AND DEPTH[c] 11 S	11 B	11 AVE.	12 S	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	749,479.8 (65)	865,507.6 (56)	807,493.7 (61)	633,450.7 (82)	844,959.6 (64)	718,676.5 (65)	816,790.3 (78)	878,175.7 (79)	656,650.1 (83)	2,691,472.9 (92)	1,487,359.3 (92)	1,498,771.9 (91)	764,867.5 (82)	1,205,453.7 (72)	907,976.1 (79)	2,127,392.9 (94)
Pyrrhophyta (dinoflagellates)	37,630.8 (3)	37,637.1 (2)	37,634.0 (3)	12,543.5 (2)	61,985.5 (5)	51,732.2 (5)	24,022.9 (2)	18,684.5 (2)	25,802.5 (3)	22,243.7 (1)	23,726.4 (1)	20,019.1 (1)	27,159.3 (3)	169,650.4 (10)	38,709.4 (3)	25,087.3 (1)
Chlorophyta (green algae)	68,989.8 (6)	77,613.5 (5)	73,301.7 (5)	47,038.4 (6)	24,467.9 (2)	30,759.7 (3)	22,688.5 (2)	24,023.1 (2)	9,787.2 (1)	4,448.7 (<1)	4,448.7 (<1)	8,007.7 (<1)	14,680.7 (2)	45,673.5 (3)	14,514.7 (1)	7,526.2 (<1)
Cyanophyta (blue-green algae)	6,271.8 (1)	2,351.9 (<1)	4,311.9 (<1)	3,449.4 (<1)			1,735.0 (<1)	2,669.2 (<1)					293.6 (<1)			
Euglenophyta (euglenoids)					3,262.4 (<1)											
Cryptophyta (cryptophytes)	43,902.6 (4)	79,965.3 (5)	61,934.0 (5)	10,975.6 (1)	39,148.7 (3)	39,148.7 (4)	10,676.9 (1)	25,357.7 (2)	8,007.7 (1)	26,692.3 (1)	11,863.2 (1)	12,011.5 (1)	5,138.3 (1)	29,361.5 (2)	9,676.5 (1)	2,508.7 (4)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)							1,334.6 (<1)					1,334.6 (<1)		1,631.2 (<1)		
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	18,815.4 (2)	30,575.0 (2)	24,695.2 (2)	1,567.9 (<1)	1,631.2 (<1)	18,176.2 (2)	2,669.2 (<1)	4,003.8 (<1)	889.7 (<1)	6,673.1 (<1)		2,669.2 (<1)	2,202.1 (<1)	3,262.4 (<1)		
Unidentified phytoflagellates	235,192.3 (20)	442,161.5 (29)	338,676.9 (25)	62,717.9 (8)	350,707.1 (26)	251,670.2 (23)	160,153.7 (15)	154,815.3 (14)	86,305.1 (11)	157,929.4 (5)	90,457.2 (6)	96,092.2 (6)	120,382.2 (13)	216,949.0 (13)	174,176.6 (15)	90,313.8 (4)
Others		2,351.9 (<1)	1,176.0 (<1)	1,567.9 (<1)	1,631.2 (<1)	1,398.2 (<1)	4,003.8 (<1)	4,003.8 (<1)		31,141.0 (1)		1,334.6 (<1)		4,893.6 (<1)		2,508.7 (<1)
Total phytoplankton	1,160,282.5	1,538,163.8	1,349,223.4	773,311.3	1,327,793.6	1,111,561.7	1,044,074.9	1,111,733.1	787,442.3	2,940,601.1	1,617,854.8	1,640,240.8	934,723.7	1,676,875.3	1,145,053.3	2,255,337.6

[a]Values are expressed as cells per liter and represent the mean of three replicates.

[b]Percentage values are given in parentheses.

[c]S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
12 JULY 1978

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVE.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	71,677.6 (16)	112,892.6 (17)	92,285.1 (16)	107,247.7 (38)	71,197.5 (13)	146,602.9 (15)	59,223.5 (18)	57,974.4 (21)	30,446.0 (12)	112,997.3 (28)	63,420.7 (18)	169,877.2 (49)	86,008.3 (27)	164,106.0 (40)	42,373.9 (16)	34,036.0 (15)
Pyrrhophyta (dinoflagellates)	77,053.7 (17)	95,331.5 (14)	86,192.6 (15)	48,920.0 (17)	170,550.0 (32)	81,062.7 (8)	60,891.9 (19)	41,706.8 (15)	65,896.6 (26)	44,931.9 (11)	103,352.7 (29)	31,458.6 (9)	86,505.5 (27)	47,452.9 (12)	51,382.7 (19)	47,380.7 (21)
Chlorophyta (green algae)	3,583.8 (1)	17,561.0 (3)	10,572.4 (2)	1,881.5 (1)	16,557.6 (3)	36,219.6 (4)	37,953.0 (12)	28,777.6 (10)	25,024.1 (10)	20,464.1 (5)	27,599.8 (8)	11,534.9 (3)	11,863.2 (4)	18,783.4 (5)	36,368.2 (13)	23,022.2 (10)
Cyanophyta (blue-green algae)		40.0 (<1)	20.0 (<1)	1,317.1 (<1)	9,106.7 (2)	1,897.2 (<1)	834.2 (<1)			889.8 (<1)		314.6 (<1)	2,965.8 (1)	2,224.3 (1)		667.3 (<1)
Euglenophyta (euglenoids)				940.8 (<1)				1,251.2 (<1)	1,251.2 (<1)		1,174.4 (<1)		494.3 (<1)			
Cryptophyta (cryptophytes)	56,446.1 (12)	146,760.0 (21)	101,603.1 (17)	24,460.0 (9)	82,787.7 (15)	308,729.1 (32)	27,943.5 (8)	48,379.8 (17)	17,099.7 (7)	45,821.8 (11)	28,187.0 (8)	18,351.0 (5)	15,817.7 (5)	37,566.9 (9)	39,704.8 (15)	24,023.0 (11)
Xanthophyta (xanthophytes)		1,254.4 (<1)	627.2 (<1)													
Chrysophyceae (yellow-brown algae and silicoflagellates)						1,724.7 (<1)	6,256.0 (2)	2,085.4 (1)		1,334.6 (<1)	1,761.7 (<1)		988.6 (<1)	494.3 (<1)	5,004.9 (2)	1,334.6 (1)
Haptophyceae (haptophytes including coccolithophores)												524.3 (<1)				
Prasinophyceae (prasinophytes)	69,885.8 (15)	106,620.6 (16)	88,253.2 (15)	14,111.6 (5)	44,705.4 (8)	115,557.8 (12)	17,099.8 (5)	8,758.4 (3)	2,919.5 (1)	27,582.0 (7)	4,110.7 (1)	5,767.4 (2)	3,954.4 (1)	17,794.8 (4)	11,010.5 (4)	7,674.0 (3)
Unidentified phytoflagellates	180,986.0 (39)	203,206.1 (30)	192,096.1 (35)	85,610.0 (30)	140,739.1 (26)	274,234.1 (28)	117,612.9 (36)	90,503.6 (32)	108,020.4 (43)	147,252.5 (37)	132,126.9 (37)	109,581.4 (31)	111,217.8 (35)	119,126.7 (29)	85,415.4 (31)	86,082.6 (38)
Others						1,724.7 (<1)	1,251.2 (<1)	2,085.3 (1)		444.9 (<1)		1,572.9 (<1)	2,471.5 (1)	988.6 (<1)	1,334.6 (<1)	333.7 (<1)
Total phytoplankton	459,633.0	683,666.2	571,649.7	284,488.7	535,644.0	967,752.8	329,066.0	281,522.5	250,657.5	401,718.9	361,733.9	348,982.3	322,287.1	408,539.9	272,595.0	224,554.1

[a]Values are expressed as cells per liter and represent the mean of three replicates.

[b]Percentage values are given in parentheses.

[c]S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
8 AUGUST 1978

TAXON	11 S	11 B	11 AVE.	12 S	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
	STATION AND DEPTH[c]															
Bacillariophyta (diatoms)	216,752.6 (49)	392,379.4 (51)	304,566.0 (50)	313,275.9 (58)	154,815.5 (40)	175,028.5 (40)	242,889.4 (61)	451,568.8 (53)	12,679.1 (13)	188,432.3 (65)	40,139.5 (32)	456,869.0 (89)	21,353.9 (21)	729,380.2 (75)	30,731.3 (19)	310,964.9 (62)
Pyrrhophyta (dinoflagellates)	7,526.0 (2)	25,479.2 (3)	16,502.6 (3)	17,874.6 (3)	26,358.8 (7)	16,778.1 (4)	7,697.1 (2)	13,170.7 (2)	7,341.2 (7)	9,218.1 (3)	13,547.9 (11)	11,360.5 (2)	8,177.9 (8)	14,684.0 (2)	5,664.1 (4)	3,336.5 (1)
Chlorophyta (green algae)	16,557.5 (4)	45,235.4 (6)	30,896.5 (5)	21,637.7 (4)	19,352.0 (5)	25,548.4 (6)	19,670.7 (5)	33,867.7 (4)	5,940.0 (7)	8,557.9 (3)	4,515.7 (4)	5,089.4 (1)	7,674.0 (7)	20,686.5 (2)	18,409.9 (11)	14,013.4 (3)
Cyanophyta (blue-green algae)	3,236.2 (1)	18,384.2 (2)	10,810.2 (2)	7,432.0 (1)	333.7 (<1)	953.3 (<1)	855.2 (<1)	7,526.1 (1)	133.5 (<1)	700.7 (<1)			700.7 (1)			667.3 (<1)
Euglenophyta (euglenoids)															222.4 (<1)	667.3 (<1)
Cryptophyta (cryptophytes)	21,073.2 (5)	41,550.6 (5)	31,311.9 (5)	17,874.6 (3)	14,013.5 (4)	32,030.7 (7)	10,263.0 (3)	24,460.0 (3)	2,535.8 (3)	5,437.9 (2)	5,017.4 (4)	1,566.0 (<1)	3,670.2 (4)	10,009.6 (1)	4,107.2 (3)	12,011.5 (2)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)		3,135.9 (<1)	1,568.0 (<1)		2,002.0 (1)	381.3 (<1)		1,881.5 (<1)	266.9 (<1)	775.6 (<1)				667.3 (<1)	222.4 (<1)	667.3 (<1)
Haptophyceae (haptophytes including coccolithophores)											250.9 (<1)					
Prasinophyceae (prasinophytes)	9,783.9 (2)	6,271.8 (1)	8,027.9 (1)	14,111.5 (3)	7,006.8 (2)	4,957.1 (1)	1,710.4 (<1)	5,644.6 (1)	133.5 (<1)				333.7 (<1)	2,669.2 (<1)	889.7 (1)	
Unidentified phytoflagellates	164,822.7 (37)	238,328.3 (31)	201,575.5 (33)	141,115.4 (26)	158,151.9 (41)	175,025.2 (40)	109,471.3 (28)	306,572.3 (36)	69,266.5 (70)	74,866.6 (26)	60,961.8 (49)	38,365.7 (7)	61,559.1 (59)	184,844.1 (19)	101,298.2 (63)	152,813.4 (31)
Others	752.6 (<1)	4,311.9 (1)	2,532.3 (<1)	4,703.8 (1)	1,001.0 (<1)	2,669.2 (1)	3,421.0 (1)	1,881.5 (<1)		333.7 (<1)	250.9 (<1)	783.0 (<1)		3,336.5 (<1)		4,671.1 (1)
Total phytoplankton	440,504.7	775,076.7	607,790.9	538,025.5	383,035.2	433,371.8	395,978.1	848,573.2	99,296.5	288,322.8	124,684.1	514,033.6	103,469.5	966,277.4	161,545.2	499,812.7

[a]Values are expressed as cells per liter and represent the mean of three replicates.

[b]Percentage values are given in parentheses.

[c]S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2A-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
12 SEPTEMBER 1978

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVE.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	1,212,019.6 (77)	1,113 287.3 (69)	1,171,653.4 (73)	389,478.6 (85)	681,640.0 (68)	706,894.2 (68)	711,857.9 (72)	776,994.7 (67)	847,517.9 (80)	775,647.5 (74)	700,227.4 (73)	645,335.8 (77)	681,797.4 (78)	953,455.2 (76)	883,072.9 (84)	654,424.8 (83)
Pyrrhophyta (dinoflagellates)	43,952.8 (3)	56,446.2 (3)	50,199.5 (3)	15,527.9 (3)	48,785.3 (5)	31,725.6 (3)	45,605.7 (4)	41,182.6 (4)	22,879.1 (2)	4,078.0 (<1)	32,034.0 (3)	34,703.2 (4)	30,508.6 (3)	43,775.4 (3)	15,637.7 (1)	21,685.0 (3)
Chlorophyta (green algae)	33,115.1 (2)	56,446.1 (3)	44,780.6 (3)	7,055.8 (2)	13,551.5 (1)	18,837.1 (2)	14,871.4 (1)	21,048.8 (2)	10,486.3 (1)	15,496.4 (1)	15,125.6 (2)	8,007.7 (1)	17,540.7 (2)	8,541.5 (1)	11,958.2 (1)	4,927.6 (1)
Cyanophyta (blue-green algae)		3,057.5 (<1)	1,528.8 (<1)	876.7 (<1)		594.9 (<1)	1,090.6 (<1)			570.9 (<1)		600.6 (<1)				1,971.2 (<1)
Euglenophyta (euglenoids)					903.4 (<1)	1,982.9 (<1)	1,982.8 (<1)	915.2 (<1)								
Cryptophyta (cryptophytes)	46,662.1 (3)	87,021.1 (5)	66,841.6 (4)	8,466.9 (2)	50,140.4 (5)	49,571.4 (5)	43,622.8 (4)	73,213.2 (6)	27,645.6 (3)	49,751.4 (5)	34,700.0 (4)	28,694.2 (3)	5,338.4 (1)	25,624.6 (2)	16,557.5 (2)	15,769.1 (2)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	3,311.5 (<1)	2,351.9 (<1)	2,831.7 (<1)		2,710.3 (<1)	991.4 (<1)	1,982.9 (<1)		953.3 (<1)	815.6 (<1)	889.7 (<1)		762.6 (<1)	3,203.1 (<1)		985.6 (<1)
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	20,170.1 (1)	9,407.7 (1)	14,788.9 (1)		13,099.7 (1)	17,845.6 (2)	6,940.0 (1)	13,727.5 (1)	1,906.6 (<1)	815.6 (<1)	5,338.5 (1)	6,673.1 (1)	3,813.2 (<1)	11,744.6 (1)	2,759.6 (<1)	
Unidentified phytoflagellates	218,258.4 (14)	282,230.7 (17)	250,244.6 (16)	36,690.0 (8)	194,689.4 (19)	203,242.7 (20)	158,628.4 (16)	234,282.0 (20)	138,227.9 (13)	204,715.1 (19)	167,271.7 (17)	114,109.5 (14)	134,986.8 (15)	204,996.8 (16)	117,742.5 (11)	86,730.0 (11)
Others		9,407.7 (1)	4,703.8 (<1)	1,411.2 (<1)	1,806.8 (<1)	1,982.9 (<1)	5,948.6 (1)	3,660.7 (<1)	4,766.5 (<1)	2,446.8 (<1)	889.7 (<1)	1,334.6 (<1)	762.6 (<1)	2,135.4 (<1)		1,971.1 (<1)
Total phytoplankton	1,577,489.6	1,637,656.2	1,607,572.9	459,507.1	1,007,326.8	1,033,668.7	992 531.1	1,165,024.7	1,054,383.2	1,054,337.3	956,476.6	839,458.7	875,510.3	1,253,476.6	1,047,728.4	788 464.6

[a]Values are expressed as cells per liter and represent the mean of three replicates.

[b]Percentage values are given in parentheses.

[c]S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
3 OCTOBER 1978

TAXON	STATION AND DEPTH[c] 11 S	11 B	11 AVE.	12 S	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	946,047.1 (61)	1,716,924.3 (60)	1,331,485.7 (60)	371,046.1 (74)	245,785.3 (25)	250,062.7 (30)	488,889.8 (53)	577,401.9 (52)	294,885.3 (47)	222,710.0 (45)	95,085.3 (23)	104,230.2 (29)	161,967.7 (28)	293,650.2 (41)	226,428.5 (33)	358,752.4 (54)
Pyrrhophyta (dinoflagellates)	33,867.5 (2)	62,717.0 (2)	48,292.7 (2)	6,397.2 (1)	35,886.4 (4)	37,369.1 (4)	35,843.8 (4)	30,844.5 (3)	41,106.3 (7)	37,191.4 (7)	28,474.1 (7)	36,842.0 (10)	30,844.5 (5)	32,920.4 (5)	31,319.0 (5)	18,570.7 (3)
Chlorophyta (green algae)	42,899.1 (3)	125,435.8 (4)	84,167.4 (4)	35,184.8 (7)	70,685.1 (7)	52,494.8 (6)	73,975.8 (8)	67,472.2 (6)	35,233.9 (6)	44,042.2 (9)	43,963.7 (11)	31,701.2 (9)	49,571.4 (8)	56,320.6 (8)	52,850.7 (8)	58,367.2 (9)
Cyanophyta (blue-green algae)	14,676.0 (1)	69,773.7 (2)	42,224.8 (2)	16,952.7 (3)	12,832.0 (1)	355.9 (<1)	610.1 (<1)	96.4 (<1)	838.9 (<1)		41.9 (<1)	728.3 (<1)	1,927.8 (<1)		23,619.7 (3)	
Euglenophyta (euglenoids)					1,087.5 (<1)	1,779.5 (<1)										
Cryptophyta (cryptophytes)	85,798.1 (6)	180,314.1 (6)	133,056.1 (6)	3,198.6 (1)	57,635.6 (6)	47,156.4 (6)	39,657.1 (4)	45,302.8 (4)	31,878.2 (5)	28,872.2 (6)	20,935.1 (5)	18,421.0 (5)	23,684.1 (4)	22,243.6 (3)	45,673.5 (7)	20,642.0 (3)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	2,257.8 (<1)	7,839.7 (<1)	5,048.8 (<1)	1,599.3 (<1)	1,087.5 (<1)	15,125.6 (2)	4,575.8 (1)	1,927.8 (<1)	2,516.8 (<1)	3,914.9 (1)	3,349.6 (1)	2,570.4 (1)	5,508.0 (1)	6,228.2 (1)	4,567.3 (1)	5,694.4 (1)
Haptophyceae (haptophytes including coccolithophores)																
Prasinophyceae (prasinophytes)	27,094.2 (2)	62,718.0 (2)	44,906.1 (2)		7,612.3 (1)	5,338.4 (1)	9,914.3 (1)	5,783.4 (1)	15,519.7 (2)	6,361.7 (1)	8,792.7 (2)	3,855.6 (1)	7,711.1 (1)	5,338.4 (1)	14,354.5 (2)	711.8 (1)
Unidentified phytoflagellates	395,123.0 (25)	619,339.7 (22)	507,231.4 (23)	63,972.3 (13)	543,731.9 (55)	420,848.5 (50)	258,534.0 (28)	385,555.4 (34)	198,400.0 (32)	149,743.8 (30)	216,050.5 (52)	160,648.0 (44)	304,037.8 (52)	287,387.0 (40)	281,870.6 (41)	192,184.5 (29)
Others	11,289.2 (1)	23,519.2 (1)	17,404.2 (1)	3,198.6 (1)	4,349.9 (<1)	3,559.0 (<1)	4,575.8 (1)		1,258.4 (<1)	4,893.6 (1)	1,674.8 (<1)	4,284.0 (1)	1,652.4 (<1)	8,897.4 (1)	3,914.9 (1)	3,559.0 (1)
Total phytoplankton	1,559,052.0	2,868,582.4	2,213,817.2	501,549.6	980,693.5	834,089.9	916,576.5	1,114,384.4	621,637.5	497,729.8	418,367.7	363,280.7	586,904.8	712,985.8	684,598.7	659,133.8

[a]Values are expressed as cells per liter and represent the mean of three replicates.

[b]Percentage values are given in parentheses.

[c]S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
7 NOVEMBER 1978

	STATION AND DEPTH[c]															
	11			12	0		1		2		3		4		5	
TAXON	S	B	AVE.	S	S	B	S	B	S	B	S	B	S	B	S	B
Bacillariophyta (diatoms)	3,512,205.0 (37)	6,886,430.4 (67)	5,199,317.7 (52)	2,874,990.8 (53)	1,614,883.6 (66)	2,795,064.8 (72)	4,069,091.8 (68)	5,501,577.9 (77)	1,539,255.7 (66)	2,486,831.6 (61)	944,618.7 (63)	1,082,714.3 (58)	965,677.1 (53)	931,386.7 (54)	2,236,220.6 (70)	2,170,972.8 (64)
Pyrrhophyta (dinoflagellates)	160,557.9 (2)	100,348.8 (1)	130,453.4 (1)	188,153.9 (3)	102,320.5 (4)	26,692.3 (1)	17,828.2 (<1)	51,901.7 (1)	57,833.3 (2)	71,179.4 (2)	37,072.6 (2)	36,701.9 (2)	54,833.4 (3)	24,216.3 (1)	121,598.2 (4)	35,606.4 (1)
Chlorophyta (green algae)	210,732.3 (2)	326,133.4 (3)	268,432.8 (3)	82,787.7 (1)	40,038.5 (2)	102,956.0 (3)	243,196.4 (4)	103,803.4 (1)	48,935.9 (2)	93,423.0 (2)	19,277.8 (1)	63,394.3 (3)	48,740.8 (3)	52,414.3 (3)	6,821.3 (<1)	136,427.2 (4)
Cyanophyta (blue-green algae)	53,184.8 (1)	185,645.1 (2)	119,415.0 (1)	172,348.9 (3)	16,682.7 (1)	3,813.2 (<1)	21,947.0 (<1)	7,414.5 (<1)	8,897.4 (<1)	17,794.8 (<1)		3,336.5 (<1)	24,370.4 (1)	32,254.9 (2)		29,658.1 (1)
Euglenophyta (euglenoids)	50,174.3 (1)	37,630.8 (<1)	43,902.6 (<1)	60,209.2 (1)		3,813.2 (<1)	5,931.6 (<1)		2,224.4 (<1)							2,965.8 (<1)
Cryptophyta (cryptophytes)	1,174,079.9 (12)	790,246.1 (8)	982,163.0 (10)	556,935.3 (10)	93,423.0 (4)	91,516.4 (2)	249,128.1 (4)	215,021.2 (3)	117,891.0 (5)	253,576.8 (6)	50,418.8 (3)	61,725.9 (3)	176,685.4 (10)	116,924.1 (7)	142,358.9 (4)	121 598.2 (4)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)	50,174.3 (1)	50,174.4 (<1)	50,174.4 (1)	30,104.6 (1)	6,673.1 (<1)	7,626.4 (<1)	17,794.9 (<1)	59,316.2 (1)		4,448.7 (<1)	7,414.5 (<1)	15,014.4 (1)	6,092.6 (<1)		2,965.8 (<1)	14,829.0 (<1)
Haptophyceae (haptophytes including coccolithophores)								14,829.1 (<1)								
Prasinophyceae (prasinophytes)	1,284,463.5 (13)	363,764.1 (4)	824,113.8 (8)	428,990.8 (8)	26,692.3 (1)	15,252.8 (<1)	59,316.2 (1)	37,072.7 (1)	48,935.9 (2)	40,038.4 (1)	7,414.5 (<1)	13,346.1 (1)	91,389.0 (5)	60,478.0 (4)	5,931.6 (<1)	41,521.4 (1)
Unidentified phytoflagellates	3,080,705.4 (32)	1,542,861.4 (15)	2,311,783.4 (23)	1,008,504.6 (19)	540,518.9 (22)	762,636.9 (20)	1,215,982.1 (21)	904,572.1 (13)	464,890.7 (20)	1,000,960.9 (25)	421,145.0 (28)	538,850.6 (29)	438,667.2 (24)	471,728.5 (27)	637,649.2 (20)	791,871.3 (23)
Others	10,034.9 (<1)	37,630.8 (<1)	23,832.8 (<1)	7,526.2 (<1)	13,346.1 (1)	91,516.4 (2)	41,521.3 (1)	207,606.7 (3)	46,711.5 (2)	84,525.6 (2)	10,380.3 (1)	43,375.0 (2)	18,277.8 (1)	36,286.8 (2)	38,555.5 (1)	47,453.0 (1)
Total phytoplankton	9,586,312.3	10,320,865.3	9,953,588.9	5,410,552.0	2,454,578.7	3,900,888.4	5,941,737.6	7,103,115.5	2,355,575.8	4,052,779.2	1,497,742.2	1,858,459.0	1,824,733.7	1,725,689.6	3,192,101.1	3,392,903.2

[a]Values are expressed as cells per liter and represent the mean of three replicates.

[b]Percentage values are given in parentheses.

[c]S = Surface; B = Bottom; AVE. = The average of intake S and B values.

Table 2.2-1
cont'd

PHYTOPLANKTON DENSITY[a] AND PERCENTAGE COMPOSITION[b]
ST. LUCIE PLANT
6 DECEMBER 1978

TAXON	STATION AND DEPTH[c] 11 S	11 B[d]	AVE.	12 S	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
Bacillariophyta (diatoms)	465,680.5 (50)			642,954.9 (59)	285,994.1 (25)	1,417,425.8 (71)	642,602.9 (53)	966,870.6 (77)	213,983.2 (28)	144,138.3 (22)	43,182.3 (14)	177,550.5 (34)	150,430.0 (19)	290,056.6 (60)	143,782.7 (21)	330,806.6 (35)
Pyrrhophyta (dinoflagellates)	38,302.6 (4)			25,804.0 (2)	27,596.0 (2)	25,087.2 (1)	19,772.1 (2)	11,863.2 (1)	77,111.0 (10)	31,458.8 (5)	27,760.2 (9)	30,073.3 (6)	86,368.7 (11)	8,541.5 (2)	101,082.7 (15)	17,616.9 (2)
Chlorophyta (green algae)	72,573.6 (8)			103,215.9 (9)	66,481.1 (6)	137,979.5 (7)	25,703.7 (2)	22,243.5 (2)	28,916.7 (4)	37,750.6 (6)	9,638.9 (3)	25,446.7 (5)	40,610.4 (5)	30,963.1 (6)	18,506.7 (3)	33,276.5 (4)
Cyanophyta (blue-green algae)	22,376.8 (2)			39,566.1 (4)	32,613.3 (3)	50,174.4 (2)	3,954.4 (<1)	5,931.6 (<1)	4,819.4 (1)	6,692.2 (1)	1,927.8 (1)	1,735.0 (<1)	5,719.8 (1)	2,491.3 (1)	7,901.0 (1)	6,851.0 (1)
Euglenophyta (euglenoids)					1,254.4 (<1)				2,891.7 (<1)	572.0 (<1)	2,698.9 (1)	578.3 (<1)	14,299.5 (2)		22,065.6 (3)	
Cryptophyta (cryptophytes)	58,462.1 (6)			64,509.9 (6)	253,380.5 (22)	62,717.9 (3)	90,951.5 (7)	28,175.2 (2)	72,291.6 (9)	84,652.7 (13)	64,773.3 (22)	80,388.3 (15)	89,228.5 (12)	38,081.0 (8)	49,113.8 (7)	121,360.9 (13)
Xanthophyta (xanthophytes)																
Chrysophyceae (yellow-brown algae and silicoflagellates)				2,150.3 (<1)	1,254.4 (<1)		1,977.2 (<1)	1,482.9 (<1)	18,313.9 (2)	572.0 (<1)	3,084.5 (1)		13,155.4 (2)	355.9 (<1)	20,642.1 (3)	1,957.4 (<1)
Haptophyceae (haptophytes including coccolithophores)							59,316.2 (5)		963.9 (<1)	572.0 (<1)			1,143.9 (<1)	711.8 (<1)		
Prasinophyceae (prasinophytes)	4,031.8 (<1)			8,601.3 (1)	21,324.1 (2)		5,931.6 (<1)		26,225.0 (3)	5,719.8 (1)	20,048.9 (7)	10,410.0 (2)	102,956.0 (13)	1,067.7 (<1)	40,572.3 (6)	3,914.9 (<1)
Unidentified phytoflagellates	268,119.2 (28)			189,229.0 (17)	436,516.9 (39)	301,046.2 (15)	363,806.0 (30)	209,089.6 (17)	323,866.4 (42)	347,762.4 (52)	125,691.1 (42)	193,741.6 (37)	269,973.5 (35)	106,057.4 (22)	264,787.6 (39)	415,955.0 (44)
Others	10,079.7 (1)			17,202.7 (2)	2,508.7 (<1)		3,954.4 (<1)	7,414.5 (1)	4,819.5 (1)	2,859.9 (<1)	771.1 (<1)	4,048.3 (1)	572.0 (<1)	3,203.1 (1)	2,847.2 (<1)	4,893.6 (1)
Total phytoplankton	939,626.3			1,093,234.1	1,128,923.5	1,994,431.0	1,217,970.0	1,253,071.1	774,002.3	662,750.7	299,577.0	523,972.0	774,457.7	481,529.4	671,301.7	936,632.8

[a]Values are expressed as cells per liter and represent the mean of three replicates

[b]Percentage values are given in parentheses.

[c]S = Surface, B = Bottom, AVE. = The average of intake S and B values

[d]Station 11 Bottom could not be analyzed due to heavy detritus content in the samples.

Table 2.2A-2

ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1976

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m^3)			Phaeopigment (mg/m^3)		
Date	Station	S	B	A	S	B	A
MAR 26	0	0.89	1.87	1.38	0.03	1.06	0.55
	1	2.00	1.14	1.57	0.01	0.14	0.08
	2	3.13	2.21	2.67	0.05	0.55	0.30
	3	3.10	2.29	2.70	0.12	0.53	0.33
	4	3.45[c]	2.46	2.96	0.14[c]	0.47	0.31
	5	2.37	6.81	4.59	0.14	3.41	1.78
	11	2.67	3.27	2.97	0.04	0.33	0.19
	12	1.43	2.49	1.96	0.05	0.59	0.32
APR 21	0	1.82	1.84	1.83	ND[d]	0.10	0.05
	1	1.72	2.28	2.00	ND	0.21	0.11
	2	1.48	2.42	1.95	ND	0.41	0.21
	3	0.95	1.59	1.27	ND	0.03	0.02
	4	1.29	2.59	1.94	ND	0.15	0.08
	5	0.84	2.28	1.56	ND	0.11	0.05
	11	1.07	2.17	1.62	0.03	ND	0.02
	12	1.44	1.41[c]	1.43	0.02	ND[c]	0.01

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c] Value represents single determination.

[d] ND = Not Detected.

Table 2.2A-2
cont'd
ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1976

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m³)			Phaeopigment (mg/m³)		
Date	Station	S	B	A	S	B	A
MAY 12	0	0.95	0.68	0.81	0.04	0.03	0.04
	1	0.83	0.60	0.72	0.03	0.02	0.03
	2	0.50	0.41	0.46	0.03	0.02	0.03
	3	0.52	0.49	0.51	0.03	ND[c]	0.02
	4	0.63	0.60	0.62	ND	0.05	0.03
	5	0.58	0.62	0.60	ND	0.02	0.01
	11	1.07	2.22	1.64	ND	0.02	0.01
	12	1.12	0.87	0.99	0.01	0.05	0.03
JUN 8	0	4.02	5.17	4.60	0.03	0.69	0.36
	1	3.79	3.58	3.69	0.71	0.27	0.49
	2	1.48	1.20	1.34	0.03	0.20	0.12
	3	0.79	0.94	0.87	0.02	0.16	0.09
	4	2.60	1.81	2.20	ND	0.12	0.06
	5	1.62	1.52	1.57	0.05	0.20	0.13
	11	2.65	4.29	3.47	0.19	0.22	0.20
	12	2.55	3.79	3.17	0.18	1.41	0.80

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c] ND = Not Detected.

Table 2.2A-2
cont'd
ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1976

		Pigment and Depth[b]					
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Phaeopigment ($^{mg}/_{m^3}$)		
Date	Station	S	B	A	S	B	A
JUL 14	0	2.00	1.47	1.74	ND[c]	0.05	0.03
	1	0.83	0.72	0.78	ND	0.02	0.01
	2	2.42	2.19	2.30	ND	ND	ND
	3	1.71	1.57	1.64	ND	ND	ND
	4	1.62	1.67	1.65	ND	ND	ND
	5	1.12	2.43	1.78	ND	ND	ND
	11	1.74	1.02	1.38	ND	<0.005	<0.005
	12	0.81	1.49[d]	0.81	ND	ND[d]	ND
AUG 11	0	1.36	1.13	1.24	0.02	0.20	0.11
	1	2.36	2.26	2.31	0.05	0.08	0.06
	2	0.85	1.11	0.98	<0.005	0.02	0.01
	3	0.53	0.69	0.61	<0.005	<0.005	<0.005
	4	0.67	1.01	0.84	<0.005	0.08	0.04
	5	1.13	0.95	1.04	ND	0.23	0.12
	11	13.00	4.12	8.56	ND	0.26	0.13
	12	5.66	3.48	4.57	ND	ND	ND

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c] ND = Not Detected.

[d] Value represents single determination.

Table 2.2A-2
cont'd
ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1976

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m^3)			Phaeopigment (mg/m^3)		
Date	Station	S	B	A	S	B	A
SEP 14	0	2.72	3.92	3.32	0.10	0.93	0.52
	1	7.09	5.63	6.36	ND[c]	1.17	0.59
	2	3.16	2.86	3.01	ND	0.23	0.12
	3	2.31	2.92	2.61	ND	0.32	0.16
	4	2.95	2.44	2.69	0.04	0.55	0.30
	5	3.46	3.12	3.29	ND	0.25	0.13
	11	28.55	1.27	14.91	ND	0.24	0.12
	12	4.45	2.63	3.54	0.24	0.06	0.15
OCT 15	0	8.81	8.30	8.55	ND	0.73	0.37
	1	8.97	8.27	8.62	1.21	0.45	0.83
	2	7.30	3.95	5.62	ND	0.17	0.09
	3	3.63	6.30	4.97	0.19	1.72	0.96
	4	6.20	5.29	5.74	ND	0.72	0.36
	5	7.37	5.99	6.68	ND	1.30	0.65
	11	13.53	11.50	12.51	ND	ND	ND
	12	13.22	9.63	11.42	ND	ND	ND

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c] ND = Not Detected.

Table 2.2A-2
cont'd

ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1976

		Pigment and Depth[b]					
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Phaeopigment ($^{mg}/_{m^3}$)		
Date	Station	S	B	A	S	B	A
NOV 10	0	2.97	7.91	5.44	0.15	2.44	1.30
	1	3.88	3.93	3.91	0.39	0.53	0.46
	2	2.94	2.89	2.91	0.24	0.51	0.38
	3	1.63	2.31	1.97	0.22	0.40	0.31
	4	3.30	3.09	3.19	0.01	0.54	0.28
	5	2.27	2.92	2.60	0.03	0.63	0.33
	11	5.11	4.71	4.91	0.06	0.48	0.27
	12	6.21	5.69	5.95	0.13	0.21	0.17
DEC 13	0	1.26	1.15	1.20	0.17	0.24	0.21
	1	1.16	1.25	1.21	0.13	0.12	0.12
	2	0.77[c]	1.82	1.30	0.11[c]	0.51	0.32
	3	0.61	0.53	0.57	0.07	0.16	0.12
	4	0.70	0.60	0.65	0.14	0.14	0.14
	5	0.80	0.92	0.85	0.09	0.14	0.11
	11	1.83	2.92	2.37	0.17	0.69	0.43
	12	2.35	1.95	2.15	0.19	0.35	0.27

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c] Value represents single determination.

Table 2.2A-2
cont'd

ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1977

Date	Station	Chlorophyll-*a* ($^{mg}/_{m^3}$) S	Chlorophyll-*a* B	Chlorophyll-*a* A	Phaeopigment ($^{mg}/_{m^3}$) S	Phaeopigment B	Phaeopigment A
		Pigment and Depth[b]					
JAN 25	0	1.44	1.30	1.37	0.19	0.19	0.19
	1	1.57	1.12	1.35	0.07	0.14	0.11
	2	0.88	0.87	0.87	0.05	0.05	0.05
	3	1.04	0.68	0.86	0.06	0.09	0.08
	4	0.89	0.98	0.93	0.10	0.20	0.15
	5	0.82	0.77	0.79	0.07	0.01	0.04
	11	1.62	2.97	2.30	0.28	0.89	0.59
	12	3.39	2.43	2.91	0.20	1.54	0.87
FEB 15	0	1.59	3.12	2.36	0.07	0.59	0.33
	1	2.34	1.88	2.11	0.05	0.16	0.10
	2	1.24	1.03	1.13	0.04	0.12	0.08
	3	0.88	0.93	0.90	0.07	0.02	0.04
	4	0.99	1.01	1.00	0.03	0.05	0.04
	5	1.64	1.67	1.65	0.05	0.25	0.15
	11	2.56	3.15	2.85	0.19	0.25	0.22
	12	3.22	2.09	2.66	0.60	0.54	0.57

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

Table 2.2A-2
cont'd
ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1977

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m^3)			Phaeopigment (mg/m^3)		
Date	Station	S	B	A	S	B	A
MAR 11	0	0.71	0.79	0.75	0.07	0.10	0.09
	1	0.81	0.75[c]	0.79	0.06	0.06[c]	0.06
	2	0.61	1.11	0.86	0.04	0.02	0.03
	3	0.69	0.71	0.70	0.01	0.03	0.02
	4	0.66	1.99	1.32	0.01	0.07	0.04
	5	1.70	1.03	1.37	ND[d]	<0.005	<0.005
	11	0.83	0.84	0.83	0.17	0.05	0.11
	12	0.57	-[e]	0.57	0.11	-	0.11
APR 19	0	0.65	0.66	0.66	0.02	0.02	0.02
	1	0.83	0.81	0.82	ND	<0.005	<0.005
	2	0.50	0.44	0.47	0.01	0.01	0.01
	3	0.24	0.26	0.25	0.02	0.02	0.02
	4	0.41	0.44	0.42	ND	ND	ND
	5	0.51	0.37	0.44	ND	0.03	0.01
	11	0.79	0.91	0.85	ND	ND	ND
	12	1.06	-	1.06	0.04	-	0.04

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c] Value represents single determination.

[d] ND = Not detected.

[e] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

Table 2.2A-2
cont'd

ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1977

		Pigment and Depth[b]					
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Phaeopigment ($^{mg}/_{m^3}$)		
Date	Station	S	B	A	S	B	A
MAY 10	0	0.65	0.82	0.74	0.09	0.05	0.07
	1	1.21	0.98	1.09	<0.005	0.03	0.01
	2	0.63	0.67	0.65	ND[c]	0.07	0.04
	3	0.52	0.54	0.53	<0.005	0.04	0.02
	4	0.55	0.73	0.64	0.07	0.01	0.04
	5	0.56	0.65	0.60	0.07	0.04	0.05
	11	0.64	0.78	0.71	ND	0.08	0.04
	12	0.65	-[d]	0.65	0.06	-	0.06
JUNE 14	0	0.26	0.54	0.40	0.04	0.01	0.03
	1	0.36	0.28	0.32	0.10	0.10	0.10
	2	0.50	0.26	0.38	0.04	0.10	0.07
	3	0.19	0.27	0.23	0.07	0.04	0.06
	4	0.52	0.29	0.40	0.03	0.09	0.06
	5	0.96	0.35	0.66	0.02	0.04	0.03
	11	0.98[e]	0.67[e]	0.82	ND[e]	0.02[e]	0.01
	12	0.23	-	0.23	0.07	-	0.07

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determination.

[c] ND = Not detected.

[d] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

[e] Value represents single determination.

Table 2.2A-2
cont'd
ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1977

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m^3)			Phaeopigment (mg/m^3)		
Date	Station	S	B	A	S	B	A
JULY 12	0	0.26	0.47	0.36	0.04	0.05	0.04
	1	0.41	0.45	0.43	0.05	0.02	0.04
	2	0.30	0.51	0.40	<0.005	0.02	0.01
	3	0.40	0.31	0.36	0.03	0.01	0.02
	4	0.21	0.58	0.40	0.03	0.03	0.03
	5	0.18	0.53	0.36	0.05	0.15	0.10
	11	0.46	1.31[c]	0.88	0.06	ND[d]	0.03
	12	0.18	-[e]	0.18	0.08	-	0.08
AUG 23	0	0.67	0.75	0.71	0.02	0.13	0.07
	1	0.93	0.76	0.85	0.09	0.08	0.09
	2	0.67	1.18	0.93	0.07	0.14	0.11
	3	1.25	1.43	1.34	0.02	0.03	0.02
	4	1.07	1.20[c]	1.14	<0.005	0.07[c]	0.04
	5	0.71	1.09	0.90	0.06	0.18	0.12
	11	1.02	1.14	1.08	0.08	0.14	0.11
	12	1.62	-	1.62	0.20	-	0.20

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determination.

[c] Value represents single determination.

[d] ND = Not detected.

[e] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

Table 2.2A-2
cont'd

ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1977

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m^3)			Phaeopigment (mg/m^3)		
Date	Station	S	B	A	S	B	A
JULY 12	0	0.26	0.47	0.36	0.04	0.05	0.04
	1	0.41	0.45	0.43	0.05	0.02	0.04
	2	0.30	0.51	0.40	<0.005	0.02	0.01
	3	0.40	0.31	0.36	0.03	0.01	0.02
	4	0.21	0.58	0.40	0.03	0.03	0.03
	5	0.18	0.53	0.36	0.05	0.15	0.10
	11	0.46	1.31[c]	0.88	0.06	ND[d]	0.03
	12	0.18	-[e]	0.18	0.08	-	0.08
AUG 23	0	0.67	0.75	0.71	0.02	0.13	0.07
	1	0.93	0.76	0.85	0.09	0.08	0.09
	2	0.67	1.18	0.93	0.07	0.14	0.11
	3	1.25	1.43	1.34	0.02	0.03	0.02
	4	1.07	1.20[c]	1.14	<0.005	0.07[c]	0.04
	5	0.71	1.09	0.90	0.06	0.18	0.12
	11	1.02	1.14	1.08	0.08	0.14	0.11
	12	1.62	-	1.62	0.20	-	0.20

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determination.

[c] Value represents single determination.

[d] ND = Not detected.

[e] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

Table 2.2A-2
cont'd
ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1977

		Pigment and Depth[b]					
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Phaeopigment ($^{mg}/_{m^3}$)		
Date	Station	S	B	A	S	B	A
SEPT 13	0	1.34	1.52	1.43	<0.005	0.02	0.01
	1	2.16	2.07	2.11	0.01	0.12	0.06
	2	1.72	1.22	1.47	ND[c]	0.07	0.03
	3	1.43	0.91	1.17	0.03	0.02	0.02
	4	1.80	1.28	1.54	ND	ND	ND
	5	1.65	1.38	1.51	ND	0.07	0.03
	11	1.92	2.20	2.06	ND	ND	ND
	12	0.40	-[d]	0.40	0.16	-	0.16
OCT 11	0	1.26	2.94	2.10	0.05	0.37	0.21
	1	1.69	1.55	1.62	0.05	0.11	0.08
	2	1.45	1.05	1.25	ND	0.12	0.06
	3	1.10	1.15	1.12	0.06	0.06	0.06
	4	1.03	1.29	1.16	0.17	0.09	0.13
	5	1.25	1.34	1.29	0.09	0.12	0.10
	11	1.60	1.65	1.62	0.03	0.04	0.03
	12	1.07	-	1.07	0.35	-	0.35

[a] Phaeopigment ≡ phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c] ND = Not detected.

[d] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

Table 2.2A-2
cont'd

ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1977

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m^3)			Phaeopigment (mg/m^3)		
Date	Station	S	B	A	S	B	A
NOV 2	0	6.47	11.29	8.88	ND[c]	1.13	0.56
	1	6.86	9.02	7.94	0.45	ND	0.23
	2	6.34	7.17	6.76	ND	0.57	0.28
	3	4.82	4.89	4.85	0.10	0.05	0.08
	4	4.49	6.78	5.63	ND	0.39	0.20
	5	4.26	6.82	5.54	0.15	0.24	0.20
	11	5.74	6.79	6.26	0.36	0.09	0.22
	12	4.89	-[d]	4.89	0.40	-	0.40
DEC 1	0	1.30	1.41	1.35	0.09	0.06	0.08
	1	1.18	1.89	1.53	0.24	0.22	0.23
	2	0.82	0.73	0.78	0.08	0.24	0.16
	3	0.65	0.65	0.65	0.05	0.11	0.08
	4	0.43	0.58	0.50	0.14	0.09	0.11
	5	0.95	0.79	0.87	0.10	0.10	0.10
	11	1.56	7.50	4.53	0.15	0.04	0.09
	12	0.56	-	0.56	0.14	-	0.14

[a] Phaeopigment = phaeophytin-*a* plus phaeophorbide-*a*.

[b] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c] ND = Not detected.

[d] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

Table 2.2A-2
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN CHLOROPHYLL-a (TUKEY'S TEST)
OFFSHORE SURFACE STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (1.45)	Mar (0.86)	Apr (0.52)	May (0.69)	Jun (0.47)	Jul (0.29)	Aug (0.88)	Sep (1.68)	Oct (1.30)	Nov (5.54)	Dec (0.89
Jan (1.11)	0.34	0.25	0.59	0.42	0.64	0.82*	0.23	0.57	0.19	4.43*	0.22
Feb (1.45)		0.59	0.93*	0.76	0.98*	1.16*	0.57	0.23	0.15	4.09*	0.56
Mar (0.86)			0.34	0.17	0.39	0.57	0.02	0.82*	0.44	4.68*	0.03
Apr (0.52)				0.17	0.05	0.23	0.36	1.16*	0.78	5.02*	0.37
May (0.69)					0.22	0.40	0.19	0.99*	0.61	4.85*	0.20
Jun (0.47)						0.18	0.41	1.21*	0.83*	5.07*	0.42
Jul (0.29)							0.59	1.39*	1.01*	5.25*	0.60
Aug (0.88)								0.80*	0.42	4.66*	0.01
Sep (1.68)									0.38	3.86*	0.79*
Oct (1.30)										4.24*	0.41
Nov (5.54)											4.65*

* Significant at α = .05, HSD = 0.79.

Table 2.2A-2
cont'd

ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1978

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m^3)			Phaeopigment (mg/m^3)		
Date	Station	S	B	A	S	B	A
24 JAN	0	2.18	3.64	2.91	0.07	0.01	0.04
	1	1.99	2.24	2.12	0.01	0.11	0.06
	2	1.52	1.73	1.62	ND[c]	ND	ND
	3	1.23[d]	1.12	1.18	ND[d]	0.04	0.02
	4	1.19	1.53	1.36	0.09	0.02	0.05
	5	1.62	1.88	1.75	<0.005	ND	<0.005
	11	2.25	3.31[d]	2.78	0.26	0.66[d]	0.46
	12	1.93	-	1.93	0.26	-	0.26
8 FEB	0	2.61	2.97	2.79	0.01	0.18	0.09
	1	4.32	3.85	4.09	0.08	0.04	0.06
	2	2.35	3.07	2.71	0.21	0.14	0.17
	3	0.91	0.89	0.90	0.01	0.03	0.02
	4	1.42	1.14	1.28	0.10	0.01	0.06
	5	2.16	2.20	2.18	ND	0.02	0.01
	11	3.92	3.91	3.92	0.12	0.41	0.27
	12	2.80	-	2.80	0.27	-	0.27

[a]Phaeopigment = Phaeophytin-*a* plus phaeophorbide-*a*.

[b]S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c]ND = Not Detected.

[d]Single Determination.

Table 2.2A-2
cont'd

ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1978

		Pigment and Depth[b]					
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Phaeopigment ($^{mg}/_{m^3}$)		
Date	Station	S	B	A	S	B	A
15 MAR	0	2.14	2.45	2.30	ND[c]	ND	ND
	1	2.17	2.29	2.23	ND	ND	ND
	2	1.63	1.62	1.62	ND	ND	ND
	3	1.68	1.50[d]	1.59	ND	ND[d]	ND
	4	1.66	1.79	1.72	ND	ND	ND
	5	1.85	1.52	1.68	ND	ND	ND
	11	1.81	3.84	2.82	ND	0.76	0.38
	12	0.75	-	0.75	0.18	-	0.18
25 APR	0	1.99	3.30	2.64	ND	0.12	0.06
	1	1.77	8.35	5.06	0.09	0.77	0.43
	2	0.93	1.15	1.04	0.02	ND	0.01
	3	0.60	0.97	0.78	ND	0.06	0.03
	4	0.64	1.72	1.18	0.02	0.15	0.09
	5	1.34	1.99	1.67	0.01	0.18	0.10
	11	18.44	10.39	14.41	0.25	0.58	0.41
	12	5.65	-	5.65	ND	-	ND

[a]Phaeopigment = Phaeophytin-*a* plus phaeophorbide-*a*.

[b]S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c]ND = Not Detected.

[d]Single Determination.

Table 2.2A-2
cont'd

ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1978

		Pigment and Depth[b]					
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Phaeopigment ($^{mg}/_{m^3}$)		
Date	Station	S	B	A	S	B	A
17 MAY	0	2.45	3.30	2.87	ND[c]	0.39	0.19
	1	2.63	4.51	3.57	0.12	0.34	0.23
	2	2.89	5.48	4.18	0.02	ND	0.01
	3	2.08	6.18	4.13	0.20	0.14	0.17
	4	2.78	5.12	3.95	0.04	ND	0.02
	5	2.95	3.91	3.43	ND	0.32	0.16
	11	12.90	6.33	9.62	0.24	0.23	0.24
	12	6.22	-	6.22	0.22	-	0.22
21 JUNE	0	0.62	0.99	0.81	0.04	0.05	0.04
	1	0.59	0.84	0.72	0.08	0.06	0.07
	2	0.66	1.53	1.09	0.03	0.01	0.02
	3	1.05	0.97	1.01	ND	<0.005	<0.005
	4	0.52	1.09	0.80	0.01	0.04	0.02
	5	0.83	1.02	0.93	<0.005	0.02	0.01
	11	1.31	1.38	1.34	0.05	0.05	0.05
	12	0.69	-	0.69	0.23	-	0.23

[a]Phaeopigment = Phaeophytin-*a* plus phaeophorbide-*a*.

[b]S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c]ND = Not Detected.

Table 2.2A-2
cont'd
ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1978

Date	Station	Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m³)			Phaeopigment (mg/m³)		
		S	B	A	S	B	A
12 JULY	0	0.13	0.43	0.28	0.07	0.04	0.06
	1	0.57	0.84	0.71	0.05	0.07	0.06
	2	0.22	0.30	0.26	0.03	0.11	0.07
	3	0.21	0.27	0.24	0.05	0.06	0.06
	4	0.27	0.35	0.31	0.11	0.13	0.12
	5	0.38	0.36	0.37	0.08	0.14	0.11
	11	0.54	1.67	1.11	0.11	0.37	0.24
	12	0.38	-	0.38	0.11	-	0.11
8 AUG	0	0.46	0.49	0.47	ND[c]	0.03	0.01
	1	0.87	0.50	0.69	0.02	0.01	0.01
	2	0.17	0.71	0.44	ND	ND	ND
	3	0.17	0.19	0.18	ND	ND	ND
	4	0.22	1.13	0.68	ND	ND	ND
	5	0.28	0.30	0.29	ND	0.01	<0.005
	11	0.46	1.87	1.16	ND	0.05	0.03
	12	0.83	-	0.83	ND	-	ND

[a]Phaeopigment = Phaeophytin-*a* plus phaeophorbide-*a*.

[b]S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c]ND = Not Detected.

Table 2.2A-2
cont'd
ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1978

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m^3)			Phaeopigment (mg/m^3)		
Date	Station	S	B	A	S	B	A
12 SEPT	0	1.56	1.62	1.59	ND[c]	ND	ND
	1	1.37	1.35	1.36	ND	0.11	0.06
	2	1.03	1.03	1.03	ND	ND	ND
	3	1.00	0.95	0.98	ND	ND	ND
	4	1.23	1.43	1.33	ND	ND	ND
	5	1.02	1.03	1.02	ND	ND	ND
	11	2.08	2.32	2.20	0.06	ND	0.03
	12	0.52[d]	-	0.52[d]	0.08[d]	-	0.08[d]
3 OCT	0	1.68	1.24	1.46	ND	0.03	0.01
	1	1.90	2.66	2.28	0.17	ND	0.08
	2	2.08	1.95	2.01	0.09	ND	0.05
	3	1.77	1.38	1.57	ND	0.13	0.07
	4	1.68	1.95	1.82	ND	0.08	0.04
	5	1.56	1.98	1.77	ND	0.07	0.03
	11	2.98	3.65	3.31	ND	0.13	0.07
	12	0.44	-	0.44	0.02	-	0.02

[a]Phaeopigment = Phaeophytin-*a* plus phaeophorbide-*a*.

[b]S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c]ND = Not Detected.

[d]Single Determination.

Table 2.2A-2
cont'd
ACTIVE CHLOROPHYLL-*a* AND PHAEOPIGMENTS[a]
ST. LUCIE PLANT
1978

		Pigment and Depth[b]					
		Chlorophyll-*a* (mg/m^3)			Phaeopigment (mg/m^3)		
Date	Station	S	B	A	S	B	A
7 NOV	0	4.97	4.33	4.65	ND[c]	0.58	0.29
	1	8.27	11.26	9.77	0.20	1.19	0.69
	2	5.46[d]	3.99	4.72	ND[d]	0.18	0.09
	3	3.08	3.60	3.34	0.42	0.18	0.30
	4	3.48	3.28	3.38	ND	0.07	0.03
	5	5.13	4.95	5.04	ND	0.24	0.12
	11	12.03	7.86	9.94	ND	0.51	0.25
	12	8.34	-	8.34	ND	-	ND
6 DEC	0	1.42	1.30	1.36	0.06	0.36	0.21
	1	3.00	3.83	3.41	0.16	0.16	0.16
	2	1.61	1.19	1.40	0.07	0.08	0.07
	3	0.54	0.80	0.67	0.08	0.29	0.18
	4	1.99	1.43	1.71	ND	0.06	0.03
	5	1.33	1.58	1.45	0.06	0.14	0.10
	11	1.46	7.51	4.49	0.38	2.38	1.38
	12	1.52	-	1.52	0.20	-	0.20

[a]Phaeopigment = Phaeophytin-*a* plus phaeophorbide-*a*.

[b]S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[c]ND = Not Detected.

[d]Single Determination.

Table 2.2A-3

RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1976

		Pigment and Depth[a]											
		Chlorophyll-*a* (mg/m^3)			Chlorophyll-*b* (mg/m^3)			Chlorophyll-*c* (mg/m^3)			Carotenoids ($\frac{m\text{-}SPU}{m^3}$)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
MAR 26	0	0.91	2.44	1.68	0.04	1.16	0.60	0.02	4.48	2.25	1.06	9.62	5.34
	1	2.05	1.24	1.65	0.01	0.13	0.07	0.93	0.59	0.76	2.03	1.41	1.72
	2	3.58	2.58	3.08	0.02	0.07	0.05	1.95	1.07	1.51	3.00	2.75	2.88
	3	3.23	2.64	2.94	ND[b]	0.26	0.13	1.08	1.75	1.42	3.32	3.63	3.48
	4	3.62[c]	2.79	3.21	ND[c]	0.08	0.04	1.61[c]	1.07	1.34	3.43[c]	1.97	2.70
	5	2.48	9.00	5.74	ND	0.08	0.04	0.52	3.69	2.11	2.38	10.96	6.67
	11	2.68	3.55	3.12	ND	ND	ND	1.05	1.06	1.06	2.43	2.73	2.58
	12	1.46	2.91	2.19	ND	ND	ND	0.12	0.48	0.30	1.19	2.66	1.93
APR 21	0	1.75	1.93	1.84	ND	0.13	0.07	0.67	1.06	0.87	1.78	2.61	2.20
	1	1.66	2.45	2.06	ND	0.08	0.04	0.60	1.09	0.85	1.66	2.86	2.26
	2	1.44	2.70	2.07	ND	0.15	0.08	0.54	1.04	0.80	1.47	2.89	2.18
	3	0.92	1.64	1.28	ND	0.06	0.03	0.36	0.70	0.53	0.94	2.07	1.51
	4	1.21	2.72	2.00	ND	0.06	0.03	0.53	1.24	0.89	1.26	3.19	2.23
	5	0.77	2.24	1.51	<0.005	0.01	0.01	0.35	0.92	0.64	0.96	2.65	1.81
	11	1.08	2.16	1.62	ND	ND	ND	0.34	0.79	0.57	1.21	2.11	1.66
	12	1.48	1.43[c]	1.46	<0.005	<0.005[c]	<0.005	0.55	0.50[c]	0.53	1.61	1.78[c]	1.70

[a] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[b] ND = Not Detected.

[c] Value represents single determination.

Table 2.2A-3
cont'd
RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1976

		Pigment and Depth[a]											
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Chlorophyll-*b* ($^{mg}/_{m^3}$)			Chlorophyll-*c* ($^{mg}/_{m^3}$)			Carotenoids ($\frac{m\text{-}SPU}{m^3}$)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
MAY 12	0	0.99	0.70	0.85	0.06	0.09	0.08	0.49	0.39	0.44	1.38	0.99	1.19
	1	0.86	0.62	0.74	0.04	0.06	0.05	0.37	0.31	0.34	1.24	0.97	1.11
	2	0.53	0.42	0.48	0.03	0.07	0.05	0.31	0.33	0.32	0.80	0.76	0.78
	3	0.55	0.53	0.54	0.02	0.05	0.04	0.24	0.24	0.24	0.87	0.85	0.86
	4	0.61	0.64	0.63	0.01	0.06	0.04	0.35	0.33	0.34	0.87	1.05	0.96
	5	0.58	0.64	0.61	0.01	0.05	0.03	0.25	0.27	0.26	0.98	1.02	1.00
	11	1.07	2.27	1.67	0.02	0.01	0.02	0.50	0.93	0.72	1.42	2.56	1.99
	12	1.14	0.92	1.03	0.06	0.04	0.05	0.45	0.37	0.41	1.71	1.27	1.49
JUN 8	0	4.04	5.67	4.86	ND[b]	0.34	0.17	1.70	2.41	2.06	3.75	5.96	4.86
	1	4.32	3.82	4.07	ND	ND	ND	1.52	1.75	1.64	4.58	3.88	4.23
	2	1.50	1.34	1.42	ND	ND	ND	0.61	0.63	0.62	1.70	1.61	1.66
	3	0.83	1.06	0.95	ND	0.01	0.01	0.32	0.52	0.42	1.05	1.47	1.26
	4	2.63	1.92	2.28	ND	0.01	0.01	1.07	0.90	0.99	2.63	2.23	2.43
	5	1.63	1.67	1.65	ND	0.02	0.01	0.59	0.75	0.67	1.91	2.15	2.03
	11	2.81	4.52	3.67	0.06	0.10	0.08	1.31	2.04	1.68	3.46	5.60	4.53
	12	2.72	4.61	3.67	<0.005	0.93	0.47	1.20	4.67	2.94	2.77	11.09	6.93

[a] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[b] ND = Not Detected.

Table 2.2A-3
cont'd
RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1976

Date	Station	Pigment and Depth[a]											
		Chlorophyll-*a* (mg/m^3)			Chlorophyll-*b* (mg/m^3)			Chlorophyll-*c* (mg/m^3)			Carotenoids ($\frac{m\text{-}SPU}{m^3}$)		
		S	B	A	S	B	A	S	B	A	S	B	A
JUL 14	0	2.01	1.52	1.77	0.09	0.13	0.11	1.05	0.81	0.93	2.50	1.64	2.07
	1	0.82	0.74	0.78	0.10	0.16	0.13	0.50	0.46	0.48	1.29	1.04	1.17
	2	2.39	2.19	2.29	0.06	0.16	0.11	1.31	1.12	1.22	2.84	2.33	2.59
	3	1.57	1.55	1.56	0.04	0.14	0.09	0.93	0.87	0.90	1.94	1.76	1.85
	4	1.63	1.60	1.62	0.07	0.15	0.11	0.90	0.88	0.89	1.98	1.79	1.89
	5	0.97	2.35	1.66	0.10	0.19	0.15	0.65	1.44	1.05	1.49	3.11	2.30
	11	1.65	1.00	1.33	0.11	0.36	0.24	0.84	1.11	0.98	2.25	2.37	2.31
	12	0.78	1.41[b]	1.10	0.06	0.25[b]	0.16	0.49	1.17[b]	0.83	1.64	2.35[b]	2.00
AUG 11	0	1.38	1.25	1.31	0.17	0.20	0.19	0.95	0.90	0.93	2.02	1.80	1.91
	1	2.35	2.32	2.33	0.18	0.29	0.24	1.40	1.34	1.37	3.07	2.83	2.95
	2	0.85	1.13	0.99	0.16	0.19	0.18	0.61	0.80	0.71	1.40	1.66	1.53
	3	0.51	0.68	0.60	0.11	0.15	0.13	0.45	0.52	0.49	0.87	1.17	1.02
	4	0.66	1.07	0.87	0.16	0.24	0.20	0.58	0.74	0.66	1.18	1.66	1.42
	5	1.11	1.09	1.10	0.22	0.21	0.22	0.95	0.88	0.92	1.88	1.74	1.81
	11	12.68	4.33	8.51	ND[c]	0.35	0.18	6.28	2.28	4.28	12.28	5.62	8.95
	12	5.47	3.50	4.49	0.05	0.28	0.17	2.68	2.09	2.39	5.70	4.38	5.04

[a] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[b] Value represents single determination.

[c] ND = Not Detected.

Table 2.2A-3
cont'd
RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1976

		Pigment and Depth[a]											
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Chlorophyll-*b* ($^{mg}/_{m^3}$)			Chlorophyll-*c* ($^{mg}/_{m^3}$)			Carotenoids ($\frac{m\text{-}SPU}{m^3}$)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
SEP 14	0	2.84	4.54	3.69	0.10	0.29	0.20	1.50	2.27	1.89	2.80	4.50	3.65
	1	7.16	6.42	6.79	0.19	0.35	0.27	3.15	2.99	3.07	7.12	6.54	6.83
	2	3.08	3.00	3.04	0.14	0.13	0.14	1.66	1.40	1.53	3.25	2.96	3.11
	3	2.32	3.16	2.74	0.15	0.21	0.18	1.29	1.69	1.49	2.50	2.92	2.71
	4	2.98	2.81	2.90	0.12	0.16	0.14	1.43	1.32	1.38	3.06	2.67	2.87
	5	3.28	3.31	3.30	0.20	0.20	0.20	1.46	1.74	1.60	3.82	3.32	3.57
	11	27.01	1.43	14.22	ND[b]	0.16	0.08	12.05	0.88	6.47	24.99	1.52	13.26
	12	4.47	2.67	3.57	0.48	0.37	0.43	1.84	1.02	1.43	4.74	2.91	3.83
OCT 18	0	8.63	8.88	8.76	ND	0.32	0.16	4.14	3.65	3.90	7.95	8.20	8.08
	1	9.86	8.70	9.28	0.07	0.25	0.16	4.49	3.87	4.18	10.10	8.02	9.06
	2	6.93	4.12	5.53	0.07	0.21	0.14	3.36	2.05	2.71	6.34	3.72	5.03
	3	3.78	7.43	5.61	0.44	0.52	0.48	3.00	3.47	3.24	4.22	8.12	6.17
	4	6.17	5.81	5.99	0.20	0.18	0.19	3.40	2.74	3.07	5.69	5.62	5.66
	5	7.11	6.87	6.99	0.08	0.36	0.22	3.40	3.30	3.35	6.46	6.87	6.67
	11	13.12	11.68	12.40	ND	ND	ND	6.47	5.49	5.98	11.82	10.87	11.35
	12	12.76	9.56	11.16	ND	ND	ND	5.84	4.57	5.21	10.79	8.46	9.63

[a] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[b] ND = Not Detected.

Table 2.2A-3
cont'd
RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1976

		Pigment and Depth[a]											
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Chlorophyll-*b* ($^{mg}/_{m^3}$)			Chlorophyll-*c* ($^{mg}/_{m^3}$)			Carotenoids ($\frac{m\text{-}SPU}{m^3}$)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
NOV 10	0	3.10	9.50	6.30	0.11	0.53	0.32	1.51	3.95	2.73	3.03	9.85	6.44
	1	4.18	4.32	4.25	0.10	0.13	0.12	2.22	2.06	2.14	4.19	4.05	4.12
	2	3.13	3.24	3.19	0.10	0.14	0.12	1.65	1.69	1.67	3.07	3.28	3.18
	3	1.78	2.59	2.19	0.14	0.07	0.11	1.02	1.36	1.19	1.96	2.66	2.31
	4	3.36	3.46	3.41	0.10	0.25	0.18	1.62	1.92	1.77	3.11	3.51	3.11
	5	2.32	3.35	2.84	0.11	0.13	0.12	1.04	1.75	1.40	2.08	3.33	2.71
	11	5.18	5.08	5.13	0.13	0.12	0.13	2.19	2.51	2.35	4.82	4.85	4.84
	12	6.37	5.93	6.15	0.07	0.02	0.05	2.65	2.62	2.64	5.76	5.63	5.70
DEC 13	0	1.38	1.31	1.35	0.07	0.11	0.09	0.66	0.72	0.69	1.41	1.24	1.33
	1	1.26	1.35	1.30	0.05	0.07	0.06	0.58	0.68	0.63	1.23	1.30	1.26
	2	0.98	2.16	1.57	0.06	0.12	0.09	0.54	1.04	0.79	1.06	2.18	1.62
	3	0.66	0.63	0.64	0.06	0.06	0.06	0.40	0.38	0.39	0.72	0.68	0.70
	4	0.79	0.69	0.74	0.08	0.08	0.08	0.46	0.42	0.44	0.84	0.72	0.78
	5	0.86	1.02	0.94	0.07	0.08	0.07	0.50	0.49	0.49	0.86	1.06	0.96
	11	1.97	3.39	2.68	0.08	0.10	0.09	0.86	1.44	1.15	1.82	3.82	2.82
	12	2.51	2.20	2.35	0.10	0.11	0.11	1.12	0.96	1.04	2.37	2.21	2.29

[a] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

Table 2.2A-3
cont'd

RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1977

		Pigment and Depth[a]											
		Chlorophyll-*a* ($^{mg}/_{m^3}$)			Chlorophyll-*b* ($^{mg}/_{m^3}$)			Chlorophyll-*c* ($^{mg}/_{m^3}$)			Carotenoids ($\frac{m\text{-}SPU}{m^3}$)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
JAN 25	0	1.58	1.43	1.51	0.07	0.16	0.11	0.67	0.77	0.72	1.65	1.36	1.51
	1	1.64	1.22	1.43	0.11	0.13	0.12	0.85	0.60	0.72	1.68	1.17	1.42
	2	0.92	0.90	0.91	0.13	0.12	0.12	0.60	0.53	0.57	0.94	0.81	0.88
	3	1.09	0.75	0.92	0.12	0.12	0.12	0.57	0.39	0.48	1.10	0.75	0.92
	4	0.96	1.10	1.03	0.13	0.20	0.17	0.64	1.06	0.85	0.97	1.07	1.02
	5	0.87	0.78	0.82	0.09	0.12	0.10	0.45	0.44	0.44	0.95	0.77	0.86
	11	1.81	3.56	2.69	0.13	0.09	0.11	0.97	1.30	1.13	2.16	4.19	3.18
	12	3.57	2.93	3.25	0.14	0.16	0.15	1.66	1.22	1.44	3.63	3.22	3.43
FEB 15	0	1.65	3.51	2.58	0.12	0.33	0.22	0.83	2.20	1.51	1.71	4.13	2.92
	1	2.41	1.99	2.20	0.14	0.20	0.17	1.41	1.06	1.23	2.46	2.13	2.29
	2	1.27	1.12	1.20	0.08	0.07	0.08	0.63	0.56	0.59	1.44	1.12	1.28
	3	0.92	0.94	0.93	0.10	0.13	0.11	0.62	0.59	0.60	1.10	1.03	1.07
	4	1.00	1.02	1.01	0.08	0.13	0.11	0.56	0.71	0.63	1.03	1.07	1.05
	5	1.70	1.84	1.77	0.11	0.17	0.14	0.80	0.82	0.81	1.81	1.78	1.79
	11	2.72	3.34	3.03	0.10	0.26	0.16	1.13	1.66	1.40	2.66	3.60	3.13
	12	3.62	2.45	3.03	0.39	0.18	0.28	1.61	0.97	1.29	3.86	2.52	3.19

[a] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

Table 2.2A-3
cont'd

RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1977

		Pigment and Depth[a]											
		Chlorophyll-a (mg/m³)			Chlorophyll-b (mg/m³)			Chlorophyll-c (mg/m³)			Carotenoids (m-SPU/m³)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
MAR 11	0	0.76	0.86	0.81	0.06	0.05	0.06	0.50	0.53	0.52	0.80	0.81	0.80
	1	0.86	0.81[b]	0.84	0.03	<0.005[b]	0.02	0.48	0.41[b]	0.45	0.79	0.69[b]	0.74
	2	0.64	1.14	0.89	0.07	0.05	0.06	0.37	0.70	0.53	0.63	1.17	0.90
	3	0.69	0.74	0.71	0.12	0.07	0.09	0.47	0.33	0.40	0.78	0.72	0.75
	4	0.66	2.05	1.35	0.03	ND[c]	0.01	0.36	1.02	0.69	0.59	1.80	1.19
	5	1.60	1.05	1.32	0.04	0.08	0.06	0.80	0.59	0.70	1.41	0.93	1.17
	11	0.94	0.88	0.91	0.07	0.06	0.06	0.45	0.45	0.45	0.93	0.79	0.86
	12	0.65	-[d]	0.65	0.06	-	0.06	0.26	-	0.26	0.57	-	0.57
APR 19	0	0.64	0.69	0.66	0.02	ND	0.01	0.32	0.28	0.30	0.75	0.77	0.76
	1	0.81	0.82	0.81	ND	ND	ND	0.32	0.28	0.30	0.86	0.78	0.82
	2	0.51	0.44	0.48	ND	ND	ND	0.25	0.14	0.19	0.48	0.44	0.46
	3	0.26	0.28	0.27	ND	ND	ND	0.05	0.10	0.07	0.31	0.24	0.23
	4	0.39	0.42	0.41	ND	ND	ND	0.17	0.18	0.17	0.38	0.45	0.42
	5	0.50	0.37	0.43	ND	ND	ND	0.18	0.18	0.18	0.45	0.33	0.39
	11	0.78	0.92	0.85	ND	ND	ND	0.34	0.40	0.37	0.89	1.02	0.95
	12	1.10	-[d]	1.10	ND	-	ND	0.45	-	0.45	1.09	-	1.09

[a] S = Surface; B = Bottom; A = Average.

[b] Value represents single determination.

[c] Not detected.

[d] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

Table 2.2A-3
cont'd

RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1977

		Pigment and Depth[a]											
		Chlorophyll-a ($^{mg}/_{m^3}$)			Chlorophyll-b ($^{mg}/_{m^3}$)			Chlorophyll-c ($^{mg}/_{m^3}$)			Carotenoids ($\frac{m\text{-}SPU}{m^3}$)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
MAY 10	0	0.71	0.84	0.78	0.05	0.05	0.05	0.24	0.34	0.29	0.69	0.78	0.74
	1	1.22	1.01	1.11	0.05	0.06	0.06	0.45	0.32	0.38	1.09	0.80	0.95
	2	0.64	0.[illegible]2	0.68	0.05	0.07	0.06	0.23	0.26	0.25	0.70	0.69	0.70
	3	0.53	0.58	0.55	0.05	0.06	0.05	0.23	0.22	0.23	0.57	0.55	0.56
	4	0.60	0.74	0.67	0.07	0.04	0.06	0.30	0.23	0.26	0.53	0.66	0.59
	5	0.59	0.68	0.64	0.08	0.06	0.07	0.31	0.27	0.29	0.60	0.59	0.59
	11	0.61	0.84	0.72	0.11	0.07	0.09	0.46	0.33	0.40	0.82	0.88	0.85
	12	0.69	-[b]	0.69	0.07	-	0.07	0.36	-	0.36	0.69	-	0.69
JUNE 14	0	0.29	0.56	0.43	0.05	0.05	0.05	0.12	0.23	0.18	0.44	0.80	0.62
	1	0.42	0.35	0.38	0.04	0.05	0.04	0.19	0.17	0.18	0.49	0.33	0.41
	2	0.52	0.32	0.42	0.03	0.05	0.04	0.27	0.20	0.23	0.58	0.31	0.45
	3	0.23	0.30	0.26	0.04	0.04	0.04	0.20	0.17	0.18	0.25	0.39	0.32
	4	0.55	0.35	0.45	0.04	0.06	0.05	0.33	0.20	0.27	0.67	0.42	0.55
	5	0.97	0.38	0.68	0.05	0.06	0.05	0.68	0.15	0.42	1.13	0.30	0.72
	11	0.98[c]	0.69[c]	0.83	0.12[c]	0.09[c]	0.11	0.38[c]	0.27[c]	0.33	1.21[c]	0.81[c]	1.01
	12	0.27	-	0.27	0.05	-	0.05	0.11	-	0.11	0.19	-	0.19

[a] S = Surface; B = Bottom; A = Average S and B values represent mean of duplicate determinations.

[b] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

[c] Value represents single determination.

Table 2.2A-3
cont'd

RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1977

		Pigment and Depth[a]											
		Chlorophyll-a (mg/m³)			Chlorophyll-b (mg/m³)			Chlorophyll-c (mg/m³)			Carotenoids (m-SPU/m³)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
JULY 12	0	0.29	0.49	0.39	0.03	0.10	0.07	0.10	0.24	0.17	0.27	0.58	0.43
	1	0.44	0.46	0.45	0.03	0.03	0.03	0.18	0.20	0.19	0.47	0.50	0.48
	2	0.30	0.52	0.41	0.02	0.05	0.04	0.15	0.26	0.21	0.29	0.59	0.44
	3	0.39	0.33	0.36	0.04	0.03	0.03	0.16	0.19	0.17	0.42	0.30	0.36
	4	0.23	0.61	0.42	0.03	0.05	0.04	0.14	0.24	0.19	0.19	0.68	0.43
	5	0.21	0.63	0.42	0.02	0.07	0.05	0.11	0.22	0.16	0.22	0.70	0.46
	11	0.49	1.31[b]	0.90	0.06	0.18[b]	0.12	0.17	0.42[b]	0.30	0.44	1.24[b]	0.84
	12	0.23	-[c]	0.23	0.04	-	0.04	0.10	-	0.10	0.09	-	0.09
AUG 23	0	0.68	0.83	0.75	0.14	0.16	0.15	0.60	0.60	0.60	0.71	0.96	0.84
	1	0.99	0.81	0.90	0.17	0.16	0.17	0.58	0.64	0.61	1.09	0.83	0.96
	2	0.71	1.27	0.99	0.13	0.25	0.19	0.35	0.92	0.64	0.78	1.31	1.05
	3	1.28	1.44	1.36	0.19	0.22	0.20	0.58	0.76	0.67	1.36	1.51	1.43
	4	1.08	1.25[b]	1.17	0.17	0.19[b]	0.18	0.55	0.92[b]	0.74	1.10	1.34[b]	1.22
	5	0.75	1.20	0.97	0.14	0.23	0.18	0.47	0.65	0.56	0.80	1.23	1.01
	11	1.08	1.23	1.16	0.18	0.17	0.18	0.52	0.59	0.55	1.08	1.19	1.14
	12	1.75	-[c]	1.75	0.20	-	0.20	0.76	-	0.76	1.49	-	1.49

[a] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[b] Value represents single determination.

[c] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

Table 2.2-3
cont'd

RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1977

		Pigment and Depth[a]											
		Chlorophyll-a ($^{mg}/_{m^3}$)			Chlorophyll-b ($^{mg}/_{m^3}$)			Chlorophyll-c ($^{mg}/_{m^3}$)			Carotenoids ($\frac{m\text{-}SPU}{m^3}$)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
NOV 2	0	6.44	12.19	9.32	0.08	0.15	0.11	2.90	4.83	3.86	5.73	11.63	8.68
	1	7.26	9.00	8.13	0.14	0.16	0.15	3.43	3.78	3.60	6.85	8.50	7.68
	2	6.29	7.63	6.96	0.36	0.39	0.37	2.89	3.77	3.33	5.85	7.59	6.72
	3	4.94	5.00	4.97	0.21	0.21	0.21	2.46	2.38	2.42	4.67	4.48	4.58
	4	4.27	7.13	5.70	0.11	0.21	0.16	2.04	3.47	2.76	3.74	6.81	5.27
	5	4.43	7.09	5.76	0.09	0.23	0.16	2.01	3.35	2.68	4.05	6.47	5.26
	11	6.06	6.95	6.51	0.18	0.10	0.14	3.01	3.24	3.13	5.41	6.67	6.04
	12	5.21	-[b]	5.21	0.17	-	0.17	2.43	-	2.43	4.85	-	4.85
DEC 1	0	1.37	1.46	1.42	0.12	0.12	0.12	0.62	0.81	0.71	1.32	1.31	1.32
	1	1.34	2.05	1.69	0.12	0.12	0.12	0.79	0.93	0.86	1.08	1.93	1.51
	2	0.87	0.89	0.88	0.13	0.09	0.11	0.52	0.49	0.51	0.84	0.84	0.84
	3	0.68	0.72	0.70	0.06	0.09	0.08	0.33	0.34	0.34	0.69	0.59	0.64
	4	0.51	0.63	0.57	0.07	0.12	0.10	0.24	0.37	0.31	0.49	0.53	0.51
	5	1.01	0.86	0.94	0.14	0.12	0.13	0.63	0.43	0.53	0.94	0.64	0.79
	11	1.68	7.69	4.68	0.10	ND[c]	0.05	0.86	3.39	2.12	1.64	7.91	4.77
	12	0.65	-[b]	0.65	0.07	-	0.07	0.45	-	0.45	0.36	-	0.36

[a] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[b] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

[c] ND = Not Detected.

Table 2.2-3
cont'd

RESULTS OF TRICHROMATIC CHLOROPHYLL AND TOTAL CAROTENOID DETERMINATIONS
ST. LUCIE PLANT
1977

		Pigment and Depth[a]											
		Chlorophyll-a ($^{mg}/_{m^3}$)			Chlorophyll-b ($^{mg}/_{m^3}$)			Chlorophyll-c ($^{mg}/_{m^3}$)			Carotenoids ($\frac{m\text{-}SPU}{m^3}$)		
Date	Station	S	B	A	S	B	A	S	B	A	S	B	A
SEPT 13	0	1.35	1.56	1.45	0.07	0.07	0.07	0.78	0.82	0.80	1.27	1.54	1.41
	1	2.16	2.16	2.16	0.10	0.11	0.11	1.06	1.07	1.06	1.99	2.07	2.03
	2	1.71	1.28	1.50	0.08	0.10	0.09	0.95	0.71	0.83	1.57	1.20	1.38
	3	1.46	0.92	1.19	0.05	0.09	0.07	0.78	0.47	0.63	1.35	0.86	1.11
	4	1.74	1.30	1.52	0.09	0.07	0.08	0.92	0.69	0.80	1.60	1.21	1.41
	5	1.59	1.43	1.51	0.06	0.13	0.10	0.81	0.83	0.82	1.52	1.32	1.42
	11	1.93	2.21	2.07	0.08	0.08	0.08	1.00	1.07	1.03	1.79	2.03	1.91
	12	0.50	-[b]	0.50	0.08	-	0.08	0.27	-	0.27	0.40	-	0.40
OCT 11	0	1.30	3.22	2.26	0.12	0.15	0.14	0.67	1.51	1.09	1.40	3.46	2.43
	1	1.74	1.64	1.69	0.16	0.13	0.15	0.87	0.74	0.80	1.96	1.93	1.95
	2	1.45	1.14	1.29	0.14	0.11	0.12	0.71	0.57	0.64	1.61	1.23	1.42
	3	1.15	1.20	1.17	0.09	0.14	0.12	0.61	0.76	0.69	1.23	1.27	1.25
	4	1.15	1.35	1.25	0.12	0.12	0.12	0.73	0.69	0.71	1.31	1.51	1.41
	5	1.31	1.43	1.37	0.13	0.12	0.13	0.76	0.73	0.75	1.41	1.54	1.48
	11	1.63	1.67	1.65	0.12	0.15	0.14	0.79	0.79	0.79	1.77	1.83	1.80
	12	1.27	-[b]	1.27	0.28	-	0.28	0.72	-	0.72	1.25	-	1.25

[a] S = Surface; B = Bottom; A = Average. S and B values represent mean of duplicate determinations.

[b] Single depth sample in discharge considered representative of water column due to turbulent mixing in immediate discharge.

Table 2.2A-4

GROSS PRIMARY PRODUCTIVITY (P)[a], EXTINCTION COEFFICIENT PER METER (k) AND SURFACE RADIATION (g-cal/cm^2/day)
ST. LUCIE PLANT
MARCH-DECEMBER 1976

Date	Station and parameter 0		1		2		3		4		5		Surface radiation
	P	k	P	k	P	k	P	k	P	k	P	k	
26 MAR	0.17	0.61	0.23	0.53	0.21	0.99	0.14	1.50	b	b	0.65	0.55	448.43
21 APR	0.32	0.53	0.28	0.65	0.41	0.44	0.26	0.46	0.31	0.57	0.33	0.43	611.40
12 MAY	0.25	0.28	0.28	0.22	0.22	0.18	0.20	0.22	0.23	0.23	0.24	0.22	511.16
8 JUN	1.39	0.29	0.50	0.65	0.39	0.31	0.20	0.39	0.62	0.31	0.50	0.27	532.67
14 JUL	0.58	0.28	0.28	0.25	1.00	0.21	0.93	0.16	1.27	0.12	0.69	0.24	612.44
11 AUG	0.55	0.20	0.53	0.39	c	c	0.38	0.14	0.47	0.16	0.42	0.22	588.52
14 SEP	0.49	0.43	0.30	1.33	0.52	0.37	0.46	0.36	0.83	0.20	1.28	0.16	317.42
15 OCT	b	b	b	b	0.75	0.53	b	b	0.57	0.70	c	c	377.87

[a] P = g organic carbon produced/m^2/day.

[b] 0.0 transmittance reading on bottom.

[c] Data not available.

Table 2.2A-4
cont'd

GROSS PRIMARY PRODUCTIVITY (P)[a], EXTINCTION COEFFICIENT PER METER (k) AND SURFACE RADIATION (g-cal/cm^2/day)
ST. LUCIE PLANT
NOVEMBER-DECEMBER 1976

Date	Station and parameter: 0		1		2		3		4		5		Surface radiation
	P	k	P	k	P	k	P	k	P	k	P	k	
10 Nov	0.54	0.68	0.26	1.01	0.30	0.66	0.38	0.35	0.32	0.68	0.32	0.55	350.33
13 Dec[b]													150.89

[a] P = g organic carbon produced/m^2/day.
[b] Data not available due to equipment failure.

Table 2.2A-4
cont'd

GROSS PRIMARY PRODUCTIVITY (P)[a], EXTINCTION COEFFICIENT PER METER (k) AND SURFACE RADIATION (g-cal/cm^2/day)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Date	Station and parameter 0 P	0 k	1 P	1 k	2 P	2 k	3 P	3 k	4 P	4 k	5 P	5 k	Surface radiation
25 Jan	0.45	0.20	0.28	0.32	0.44	0.13	0.26	0.22	0.41	0.15	b	b	319.64
15 Feb	0.31	0.36	0.28	0.36	0.30	0.18	b	b	b	b	0.36	0.22	177.04
11 Mar	0.24	0.23	0.31	0.19	0.41	0.15	0.18	0.28	0.46	0.21	0.50	0.20	380.60
19 Apr	0.22	0.26	0.10	0.67	0.24	0.17	0.09	0.25	0.16	0.22	b	b	510.40
10 May	0.23	0.17	0.21	0.27	0.20	0.17	0.17	0.17	0.23	0.15	0.23	0.14	229.10
14 Jun	0.61	0.06	0.13	0.22	0.25	0.14	0.12	0.17	0.27	0.14	0.35	0.17	603.90
12 Jul	0.21	0.17	0.28	0.15	0.37	0.10	0.29	0.12	0.29	0.13	0.30	0.11	640.08
23 Aug	0.36	0.16	0.26	0.27	b	b	0.59	0.19	0.67	0.14	0.66	0.11	489.95
13 Sep	0.51	0.24	0.38	0.49	0.70	0.18	0.53	0.19	0.62	0.21	0.65	0.20	536.26
11 Oct	0.36	0.35	0.30	0.32	0.38	0.19	0.29	0.22	0.32	0.21	0.35	0.22	265.89
2 Nov	c	c	c	c	c	c	0.37	0.78	c	c	c	c	262.21
1 Dec	0.23	0.28	0.10	0.70	0.16	0.24	0.08	0.41	0.10	0.23	0.27	0.15	206.01

[a] P = g organic carbon produced/m^2/day.
[b] Data not available.
[c] 0.0 transmittance reading on bottom.

Table 2.2A-4
cont'd

GROSS PRIMARY PRODUCTIVITY (P)[a], EXTINCTION COEFFICIENT PER METER (k) AND
SURFACE RADIATION (g-cal/cm^2/day)
ST. LUCIE PLANT
JANUARY-NOVEMBER 1978

	Station and parameter												
	0		1		2		3		4		5		Surface radiation
Date	P	k	P	k	P	k	P	k	P	k	P	k	
24 Jan	0.23	0.67	0.25	0.46	0.27	0.33	0.18	0.35	0.20	0.37	0.23	0.42	241
8 Feb	0.21	0.64	0.18	1.06	0.17	0.77	0.13	0.34	0.22	0.28	0.24	0.43	198
15 Mar	0.50	0.34	0.69	0.24	0.67	0.18	0.63	0.19	0.73	0.17	0.66	0.19	393
25 Apr	0.52	0.47	0.63	0.74	0.43	0.23	0.28	0.26	0.45	0.24	0.48	0.32	635
17 May	0.77	0.35	2.24	0.15	1.35	0.29	1.22	0.31	1.25	0.29	1.82	0.17	614
21 Jun	0.14	0.26	0.12	0.29	0.20	0.25	0.22	0.21	0.19	0.19	0.22	0.20	197
12 Jul	0.11	0.18	0.23	0.24	0.04	0.52	0.10	0.18	0.15	0.16	0.11	0.27	441
8 Aug	0.10	0.44	0.31	0.21	0.31	0.13	0.11	0.15	0.24	0.27	0.13	0.20	634
12 Sep	0.51	0.24	0.33	0.31	0.40	0.20	0.32	0.23	0.56	0.18	0.25	0.31	433
3 Oct	0.34	0.33	0.42	0.41	0.46	0.34	0.44	0.28	1.25	0.11	0.40	0.34	443
7 Nov	0.13	0.74	0.24	0.85	0.25	0.40	0.11	0.65	0.22	0.33	0.17	0.62	67

[a]P = g organic carbon produced/m^2/day.

Table 2.2A-5

STATISTICAL COMPARISON OF TOTAL PHYTOPLANKTON DENSITY
OFFSHORE SURFACE STATIONS
ST. LUCIE PLANT
MARCH 1976 - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS X YEARS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	17	16.11207446	0.94776909
ERROR	180	116.21214913	0.64562305
CORRECTED TOTAL	197	132.32422359	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	6.79321018	2.10	0.0662
YEAR	2	7.83694310	6.07	0.0028
STATION*YEAR	10	1.48192118	0.23	0.9931

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=180 MS=0.645623

GROUPING		MEAN	N	STATION
	A	14.128483	33	1
B	A	13.986747	33	0
B	A	13.799537	33	5
B	A	13.796239	33	2
B		13.688712	33	4
B		13.565044	33	3

DUNCAN'S MULTIPLE RANGE TEST: YEARS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=180 MS=0.645623

GROUPING	MEAN	N	YEAR
A	14.102640	60	76
B	13.809895	66	78
B	13.614246	72	77

Table 2.2A-5
cont'd

STATISTICAL COMPARISON OF TOTAL PHYTOPLANKTON DENSITY OFFSHORE BOTTOM STATIONS ST. LUCIE PLANT MARCH 1976 - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS X YEARS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	17	24.73414737	1.45494985
ERROR	180	121.49462283	0.67497013
CORRECTED TOTAL	197	146.22877020	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	9.22177449	2.73	0.0209
YEAR	2	13.74741774	10.18	0.0001
STATION*YEAR	10	1.76493515	0.26	0.9884

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=180 MS=0.67497

GROUPING			MEAN	N	STATION
	A		14.418116	33	1
B	A		14.314711	33	0
B	A	C	14.051212	33	5
B	A	C	13.993397	33	2
B		C	13.909393	33	4
		C	13.810463	33	3

DUNCAN'S MULTIPLE RANGE TEST: YEARS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=180 MS=0.67497

GROUPING	MEAN	N	YEAR
A	14.433692	60	76
B	14.088233	66	78
C	13.785638	72	77

Table 2.2A-5
cont'd

ANALYSIS OF VARIANCE FOR PHYTOPLANKTON DENSITY
ST. LUCIE PLANT
MARCH-OCTOBER 1976

INTAKE-DISCHARGE STATIONS					
Depth	Source	Degrees of freedom	Sum of squares	Mean square	F
Surface	Stations	1	$.8615321 \times 10^{11}$	$.8615321 \times 10^{11}$	0.091
	Months	7	$.3495500 \times 10^{14}$	$.4993571 \times 10^{13}$	5.267**
	Error	7	$.6636227 \times 10^{13}$	$.9480324 \times 10^{12}$	
	Total	15	$.4167738 \times 10^{14}$		
Bottom	Stations	1	$.1050566 \times 10^{13}$	$.1050566 \times 10^{13}$	0.449
	Months	7	$.5364225 \times 10^{14}$	$.7663179 \times 10^{13}$	3.279
	Error	7	$.1636155 \times 10^{14}$	$.2337365 \times 10^{13}$	
	Total	15	$.7105437 \times 10^{14}$		

OFFSHORE STATIONS					
Depth	Source	Degrees of freedom	Sum of squares	Mean square	F
Surface	Stations	5	$.8162714 \times 10^{13}$	$.1632543 \times 10^{13}$	1.697
	Months	7	$.4964351 \times 10^{14}$	$.6806216 \times 10^{13}$	7.374**
	Error	35	$.3366269 \times 10^{14}$	$.9617910 \times 10^{12}$	
	Total	47	$.9146891 \times 10^{14}$		
Bottom	Stations	5	$.8534055 \times 10^{13}$	$.1706811 \times 10^{13}$	0.995
	Months	7	$.1487050 \times 10^{15}$	$.2124357 \times 10^{14}$	12.386**
	Error	35	$.6002755 \times 10^{14}$	$.1715073 \times 10^{13}$	
	Total	47	$.2172666 \times 10^{15}$		

** Significant at $\alpha = .01$.

Table 2.2A-5
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN PHYTOPLANKTON DENSITY (TUKEY'S TEST)
OFFSHORE STATIONS
ST. LUCIE PLANT
MARCH-OCTOBER 1976

Surface stations							
Month (Mean)	APR (1304354.5)	MAY (650657.1)	JUN (1411525.7)	JUL (1287848.1)	AUG (1140876.6)	SEP (1805394.6)	OCT (4133968.7)
MAR (2446645.5)	1,142,291.0	1,795,988.4	1,035,119.8	1,158,797.4	1,305,768.9	641,250.9	1,687,323.2
APR (1304354.5)		653,697.4	107,171.2	16,506.4	163,477.9	501,040.1	2,829,614.2**
MAY (650657.1)			760,868.6	637,191.0	490,219.5	1,154,737.5	3,483,311.6**
JUN (1411525.7)				123,677.6	270,649.1	393,868.9	2,722,443.0**
JUL (1287848.1)					146,971.5	517,546.5	2,846,120.6**
AUG (1140876.6)						664,518.0	2,993,092.1**
SEP (1805394.6)							2,328,574.1**

** Significant at α = .01, HSD = 2.15×10^6.

Bottom stations							
Month (Mean)	APR (2745138.9)	MAY (656154.2)	JUN (1979909.7)	JUL (1255918.9)	AUG (1262219.1)	SEP (2913331.4)	OCT (6609979.3)
MAR (3509908.9)	764,770.0	2,853,754.7*	1,529,999.2	2,253,990.0	2,247,689.8	596,577.5	2,560,070.4*
APR (2745138.9)		2,088,984.7	765,229.2	1,489,220.0	1,482,919.8	168,192.5	3,324,840.4**
MAY (656154.2)			1,323,755.5	599,764.7	606,064.9	2,257,177.2	5,413,825.1**
JUN (1979909.7)				723,990.8	717,690.6	933,421.7	4,090,069.6**
JUL (1255918.9)					6,300.2	1,657,412.5	4,814,060.4**
AUG (1262219.1)						1,651,112.3	4,807,760.2**
SEP (2913331.1)							3,156,648.2**

* Significant at α = .05, HSD = 2.438×10^6.
** Significant at α = .01, HSD = 2.925×10^6.

Table 2.2A-5
cont'd

ANALYSIS OF VARIANCE FOR PHYTOPLANKTON DENSITY
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
JANUARY - DECEMBER 1977

SURFACE

Source	Degrees of freedom	Sum of squares	Mean squares	F
Months	11	1210657×10^8	110059×10^8	4.43*
Stations	5	22931×10^8	4586×10^8	1.84
Error	55	136474×10^8	2481×10^8	
Total	71	1370062×10^8		

BOTTOM

Source	Degrees of freedom	Sum of squares	Mean squares	F
Months	11	1662227×10^8	151111×10^8	36.55*
Stations	5	83671×10^8	16734×10^8	4.04*
Error	55	227374×10^8	4134×10^8	
Total	71	1973273×10^8		

*Significant at α = .05.

Table 2.2A-5
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN PHYTOPLANKTON DENSITY (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

MONTH (MEAN)	FEB (861004.0)	MAR (1518897.0)	APR (795190.8)	MAY (1020938.6)	JUN (627297.6)	JUL (652641.5)	AUG (637512.5)	SEP (1023876.6)	OCT (1553871.0)	NOV (6332754.0)	DEC (594685.3)
JAN (1309140.0)	448,136.0	209,757.0	513,949.2	288,201.4	681,842.4	656,498.5	671,627.0	285,274.6	244,731.0	5,023,614.0*	714,454.7
FEB (861004.0)		657,893.0	65,813.2	159,934.6	233,706.4	208,362.5	223,491.5	162,872.6	692,867.0	5,471,750.0*	266,318.7
MAR (1518897.0)			723,706.2	497,958.4	891,599.4	866,255.5	881,384.5	495,031.6	34,974.0	4,813,857.0*	924,211.7
APR (795190.8)				225,749.4	167,893.2	142,549.3	157,678.3	228,685.8	758,680.2	5,537,563.2*	200,505.5
MAY (1020938.6)					393,641.0	368,297.1	383,426.1	2,938.0	532,932.4	5,311,815.4*	426,253.3
JUN (627297.6)						25,343.9	10,214.9	396,579.0	926,573.4	5,705,456.4*	32,612.3
JUL (652641.5)							15,129.0	371,235.1	901,229.5	5,680,112.5*	57,956.2
AUG (637512.5)								386,364.1	916,358.5	5,695,241.5*	42,827.2
SEP (1023876.6)									529,994.4	5,308,877.4*	429,191.3
OCT (1553871.0)										4,778,883.0*	959,185.7
NOV (6332754.0)											5,738,068.7*

*Significant at α = .05, HSD = 1,267,817.0.

Table 2.2A-5
cont'd

DIFFERENCES BETWEEN STATION MEAN PHYTOPLANKTON DENSITY (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

STATION (MEAN)	1 (2003965.0)	2 (1170373.0)	3 (1021667.3)	4 (1273168.0)	5 (1271244.0)
0 (1723482.0)	280,483.0	553,109.0	701,814.7	450,314.0	452,238.0
1 (2003965.0)		833,592.0*	982,297.7*	730,797.0	732,721.0
2 (1170373.0)			148,705.7	102,795.0	100,871.0
3 (1021667.3)				251,500.7	249,576.7
4 (1273168.0)					1,924.0

*Significant at $\alpha = .05$, HSD = 775,838.0

Table 2.2A-5
cont'd

ANALYSIS OF VARIANCE FOR PHYTOPLANKTON DENSITY
OFFSHORE STATIONS (O-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977[a]

SURFACE

Source	Degrees of freedom	Sum of squares	Mean squares	F
Years (Y)	1	86601×10^8	86601×10^8	15.44*
Months (M)	9	1109651×10^8	123294×10^8	21.98*
Stations (S)	5	89825×10^8	17965×10^8	3.20*
Y x M	9	649606×10^8	72178×10^8	12.87*
Y x S	5	30775×10^8	6155×10^8	1.10
M x S	45	286282×10^8	6361×10^8	1.13
Error	45	252335×10^8	5607×10^8	
Total	119	2505077×10^8		

BOTTOM

Source	Degrees of freedom	Sum of squares	Mean squares	F
Years (Y)	1	351786×10^8	351786×10^8	41.21*
Months (M)	9	2210211×10^8	245579×10^8	28.77*
Stations (S)	5	222205×10^8	44441×10^8	5.21*
Y x M	9	1088551×10^8	120950×10^8	14.17*
Y x S	5	15981×10^8	3196×10^8	37.45*
M x S	45	636495×10^8	14144×10^8	1.65
Error	45	384072×10^8	8534×10^8	
Total	119	4909300×10^8		

*Significant at $\alpha = .05$.

[a]January and February 1977 not included in analysis.

Table 2.2A-5
cont'd

DIFFERENCES BETWEEN STATION MEAN PHYTOPLANKTON DENSITY (TUKEY'S TEST)
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977[a]

STATION (MEAN)	SURFACE STATIONS 1 (2001935.0)	2 (1466372.0)	3 (1173001.0)	4 (1234948.0)	5 (1367132.0)
0 (1580100.0)	421,835.0	113,728.0	407,099.0	345,152.0	212,968.0
1 (2001935.0)		535,563.0	828,934.0*	766,987.0*	634,803.0
2 (1466372.0)			293,371.0	231,424.0	99,240.0
3 (1173001.0)				61,947.0	194,131.0
4 (1234948.0)					132,184.0

*Significant at α = .05, HSD = 705,435.4.

[a]January and February 1977 not included in analysis.

Table 2.2A-5
cont'd

DIFFERENCES BETWEEN STATION MEAN PHYTOPLANKTON DENSITY (TUKEY'S TEST)
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977

STATION (MEAN)	BOTTOM STATIONS 1 (2684762.0)	2 (1701149.0)	3 (1530588.0)	4 (1660808.0)	5 (2061866.0)
0 (2464076.0)	220,686.0	762,927.0	933,488.0*	803,268.0	402,210.0
1 (2684762.0)		983,613.0*	1,154,174.0*	1,023,954.0*	622,896.0
2 (1701149.0)			170,561.0	40,341.0	360,717.0
3 (1530588.0)				130,220.0	531,278.0
4 (1660808.0)					401,058.0

*Significant at α = .05, HSD = 870,313.4.

Table 2.2A-5
cont'd

STATISTICAL COMPARISON OF TOTAL PHYTOPLANKTON DENSITY
OFFSHORE SURFACE STATIONS
ST. LUCIE PLANT
JANUARY - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	5	8.73812128	1.74762426
ERROR	190	140.40447480	0.73897092
CORRECTED TOTAL	195	149.14259608	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	8.73812128	2.36	0.0410

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=190 MS=0.738971

GROUPING		MEAN	N	STATION
	A	14.086762	33	0
	A	14.076491	32	1
B	A	13.737836	33	5
B	A	13.705278	32	2
B		13.583549	33	3
B		13.578078	33	4

Table 2.2-5
cont'd

STATISTICAL COMPARISON OF TOTAL PHYTOPLANKTON DENSITY
OFFSHORE BOTTOM STATIONS
ST. LUCIE PLANT
JANUARY - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	
MODEL	5	9.33311519	1.86662304	
ERROR	192	136.39314437	0.71038096	
CORRECTED TOTAL	197	145.72625957		
SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	9.33311519	2.63	0.0251

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=192 MS=0.710381

GROUPING		MEAN	N	STATION
	A	14.403375	33	1
B	A	14.311612	33	0
B	A	14.124135	33	2
B		13.903265	33	5
B		13.872071	33	3
B		13.860471	33	4

Table 2.2A-6

STATISTICAL COMPARISON OF CHLOROPHYLL-*a*
OFFSHORE SURFACE STATIONS
ST. LUCIE PLANT
MARCH 1976 - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS X YEARS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	17	67.87050125	3.99238243
ERROR	174	480.41754667	2.76102038
CORRECTED TOTAL	191	548.28804792	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	23.77200417	1.72	0.1308
YEAR	2	39.58352347	7.17	0.0010
STATION*YEAR	10	4.51497361	0.16	0.9983

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=174 MS=2.76102

GROUPING		MEAN	N	STATION
	A	2.464375	32	1
B	A	2.001875	32	0
B	A	1.825312	32	2
B	A	1.734062	32	5
B	A	1.602500	32	4
B		1.330000	32	3

DUNCAN'S MULTIPLE RANGE TEST: YEARS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=174 MS=2.76102

GROUPING		MEAN	N	YEAR
	A	2.403500	60	76
B	A	1.873167	60	78
B		1.306389	72	77

Table 2.2A-6
cont'd

STATISTICAL COMPARISON OF CHLOROPHYLL-*a*
OFFSHORE BOTTOM STATIONS
ST. LUCIE PLANT
MARCH 1976 - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS X YEARS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	17	90.30180125	5.31187066
ERROR	174	710.33838000	4.08240448
CORRECTED TOTAL	191	800.64018125	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	36.32585625	1.78	0.1183
YEAR	2	40.41024681	4.95	0.0081
STATION*YEAR	10	13.56569819	0.33	0.9714

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=174 MS=4.0824

GROUPING		MEAN	N	STATION
	A	2.783437	32	1
B	A	2.605625	32	0
B	A	2.035312	32	5
B	A	1.861250	32	2
B	A	1.840312	32	4
B		1.565937	32	3

DUNCAN'S MULTIPLE RANGE TEST: YEARS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=174 MS=4.0824

GROUPING	MEAN	N	YEAR
A	2.548500	60	76
A	2.385833	60	78
B	1.528889	72	77

Table 2.2A-6
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN CHLOROPHYLL-α (TUKEY'S TEST)
OFFSHORE STATIONS
ST. LUCIE PLANT
MARCH-DECEMBER 1976

Month (Mean)	APR (1.35)	MAY (0.67)	JUN (2.38)	JUL (1.62)	AUG (1.15)	SEP (3.62)	OCT (7.05)	NOV (2.83)	DEC (0.88)
	Surface stations								
MAR (2.49)	1.14	1.82	0.11	0.87	1.34	1.13	4.56**	0.34	1.61
APR (1.35)		0.68	1.03	0.27	0.20	2.27**	5.70**	1.48	0.47
MAY (0.67)			1.71	0.95	0.48	2.95**	6.38**	2.16**	0.21
JUN (2.38)				0.76	1.23	1.24	4.67**	0.45	1.50
JUL (1.62)					0.47	2.00*	5.43**	1.21	0.74
AUG (1.15)						2.47**	5.90**	1.68	0.27
SEP (3.62)							3.43**	0.79	2.74**
OCT (7.05)								4.22**	6.17**
NOV (2.83)									1.95*

* Significant at α = .05, HSD = 1.83.
** Significant at α = .01, HSD = 2.15.

Month (Mean)	APR (2.17)	MAY (0.57)	JUN (2.37)	JUL (1.68)	AUG (1.19)	SEP (3.48)	OCT (6.35)	NOV (3.84)	DEC (1.05)
	Bottom stations								
MAR (2.80)	0.63	2.23	0.43	1.12	1.61	0.68	3.55**	1.04	1.75
APR (2.17)		1.60	0.20	0.49	0.98	1.31	4.18**	1.67	1.12
MAY (0.57)			1.80	1.11	0.62	2.91**	5.78**	3.27**	0.48
JUN (2.37)				0.69	1.18	1.11	3.98**	1.47	1.32
JUL (1.68)					0.49	1.80	4.67**	2.16	0.63
AUG (1.19)						2.29	5.16**	2.65*	0.14
SEP (3.48)							2.87**	0.36	2.43*
OCT (6.35)								2.51*	5.30**
NOV (3.84)									2.79**

* Significant at α = .05, HSD = 2.34.
** Significant at α = .01, HSD = 2.76.

Table 2.2A-6
cont'd

DIFFERENCES BETWEEN MEAN SURFACE STATION CHLOROPHYLL-*a* (TUKEY'S TEST)
OFFSHORE STATIONS
ST. LUCIE PLANT
1976

Station (Mean)	1 (3.26)	2 (2.40)	3 (1.58)	4 (2.34)	5 (2.16)
0 (2.68)	0.58	0.28	1.10	0.34	0.52
1 (3.26)		0.86	1.68**	0.92	1.10
2 (2.40)			0.82	0.06	0.24
3 (1.58)				0.76	0.58
4 (2.34)					0.18

**Significant at α = .01, HSD = 1.52.

Table 2.2A-6
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN CHLOROPHYLL-*a* (TUKEY'S TEST)
OFFSHORE SURFACE STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (1.45)	Mar (0.86)	Apr (0.52)	May (0.69)	Jun (0.47)	Jul (0.29)	Aug (0.88)	Sep (1.68)	Oct (1.30)	Nov (5.54)	Dec (0.89
Jan (1.11)	0.34	0.25	0.59	0.42	0.64	0.82*	0.23	0.57	0.19	4.43*	0.22
Feb (1.45)		0.59	0.93*	0.76	0.98*	1.16*	0.57	0.23	0.15	4.09*	0.56
Mar (0.86)			0.34	0.17	0.39	0.57	0.02	0.82*	0.44	4.68*	0.03
Apr (0.52)				0.17	0.05	0.23	0.36	1.16*	0.78	5.02*	0.37
May (0.69)					0.22	0.40	0.19	0.99*	0.61	4.85*	0.20
Jun (0.47)						0.18	0.41	1.21*	0.83*	5.07*	0.42
Jul (0.29)							0.59	1.39*	1.01*	5.25*	0.60
Aug (0.88)								0.80*	0.42	4.66*	0.01
Sep (1.68)									0.38	3.86*	0.79*
Oct (1.30)										4.24*	0.41
Nov (5.54)											4.65*

* Significant at $\alpha = .05$, HSD = 0.79.

Table 2.2A-6
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN CHLOROPHYLL-a (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (1.61)	Mar (1.06)	Apr (0.50)	May (0.73)	Jun (0.33)	Jul (0.48)	Aug (1.07)	Sep (1.40)	Oct (1.55)	Nov (7.56)	Dec (1.01)
Jan (0.95)	0.66	0.11	0.45	0.22	0.62	0.47	0.12	0.45	0.60	6.71*	0.06
Feb (1.61)		0.55	1.11	0.88	1.28	1.13	0.54	0.21	0.06	6.05*	0.60
Mar (1.06)			0.56	0.33	0.73	0.58	0.01	0.34	0.49	6.60*	0.05
Apr (0.50)				0.23	0.17	0.02	0.57	0.90	1.05	7.16*	0.51
May (0.73)					0.40	0.25	0.34	0.67	0.82	6.93*	0.28
Jun (0.33)						0.15	0.74	1.07	1.22	7.33*	0.68
Jul (0.48)							0.59	0.92	1.07	7.18*	0.53
Aug (1.07)								0.33	0.48	6.59*	0.06
Sep (1.40)									0.15	6.26*	0.39
Oct (1.55)										6.11*	0.54
Nov (7.66)											6.65*

* Significant at α = .05, HSD = 1.36.

Table 2.2A-6
cont'd

DIFFERENCES BETWEEN STATION MEAN CHLOROPHYLL-*a* (TUKEY'S TEST)
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
JANUARY - DECEMBER 1977

SURFACE					
Station (Mean)	1 (1.70)	2 (1.31)	3 (1.10)	4 (1.09)	5 (1.27)
0 (1.38)	0.32	0.07	0.28	0.29	0.11
1 (1.70)		0.39	0.60*	0.61*	0.43
2 (1.31)			0.21	0.22	0.04
3 (1.10)				0.01	0.17
4 (1.09)					0.18

*Significant at $\alpha = .05$; HSD = 0.48.

BOTTOM					
Station (Mean)	1 (1.80)	2 (1.35)	3 (1.06)	4 (1.43)	5 (1.40)
0 (2.13)	0.33	0.78	1.07*	0.70	0.73
1 (1.80)		0.45	0.74	0.37	0.40
2 (1.35)			0.29	0.08	0.05
3 (1.06)				0.37	0.34
4 (1.43)					0.03

*Significant at $\alpha = .05$; HSD = 0.83.

Table 2.2A-6
cont'd

ANALYSIS OF VARIANCE FOR CHLOROPHYLL-*a*
AT OFFSHORE STATIONS
ST. LUCIE PLANT
MARCH 1976-DECEMBER 1977

January-December 1977					
Depth	Source	Degrees of freedom	Sum of squares	Mean squares	F
Surface	Months	11	128.4400	11.67636	72.78*
	Stations	5	2.9928	0.59856	3.73*
	Error	55	8.8227	0.16041	
	Total	71	140.2555		
Bottom	Months	11	257.4672	23.40610	49.25*
	Stations	5	8.5768	1.71536	3.61*
	Error	55	26.1387	0.47525	
	Total	71	292.1827		

March 1976-December 1977[a]					
Depth	Source	Degrees of freedom	Sum of squares	Mean squares	F
Surface	Years (Y)	1	35.7188	35.71880	71.07*
	Months (M)	9	195.9557	21.77286	43.32*
	Stations (S)	5	13.4511	2.69022	5.35*
	Y x M	9	123.1643	13.68492	27.23*
	Y x S	5	4.0380	0.80760	1.60
	M x S	45	25.8410	0.57424	1.14
	Error	45	22.6169	0.50260	
	Total	119	420.7858		
Bottom	Years (Y)	1	28.2169	28.21686	49.44*
	Months (M)	9	279.5283	31.05870	54.42*
	Stations (S)	5	19.6516	3.93031	6.89*
	Y x M	9	131.9219	14.65798	25.68*
	Y x S	5	2.0989	0.41978	0.74
	M x S	45	65.3171	1.45149	2.54*
	Error	45	25.6812	0.57069	
	Total	119	552.4159		

* Significant at $\alpha = .05$.
[a] January and February 1977 not included in analysis.

Table 2.2A-6
cont'd

DIFFERENCES BETWEEN STATION MEAN CHLOROPHYLL-*a* (TUKEY'S TEST)
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977[a]

SURFACE					
Station (Mean)	1 (2.45)	2 (1.88)	3 (1.35)	4 (1.73)	5 (1.71)
0 (2.02)	0.43	0.14	0.67*	0.29	0.31
1 (2.45)		0.57	1.10*	0.72*	0.74*
2 (1.88)			0.53	0.15	0.17
3 (1.35)				0.38	0.36
4 (1.73)					0.02

*Significant at α = .05; HSD = 0.67.

BOTTOM					
Station (Mean)	1 (2.41)	2 (1.77)	3 (1.54)	4 (1.84)	5 (2.10)
0 (2.73)	0.32	0.96*	1.19*	0.89*	0.63
1 (2.41)		0.64	0.87*	0.57	0.31
2 (1.77)			0.23	0.07	0.33
3 (1.54)				0.30	0.56
4 (1.84)					0.26

*Significant at α = .05; HSD = 0.71.

[a]January and February 1977 not included in analysis.

Table 2.2A-6
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN CHLOROPHYLL-*a* (TUKEY'S TEST)
CANAL STATIONS (11,12)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (3.08)	Mar (0.70)	Apr (0.96)	May (0.68)	Jun (0.53)	Jul (0.53)	Aug (1.35)	Sep (1.23)	Oct (1.35)	Nov (5.58)	Dec (2.55)
Jan (2.84)	0.24	2.14	1.88	2.16	2.31	2.31	1.49	1.61	1.49	2.74	0.29
Feb (3.04)		2.34	2.08	2.36	2.51	2.51	1.69	1.81	1.69	2.54	0.49
Mar (0.70)			0.26	0.02	0.17	0.17	0.65	0.53	0.65	4.88*	1.85
Apr (0.96)				0.28	0.43	0.43	0.39	0.27	0.39	4.62*	1.59
May (0.68)					0.15	0.15	0.67	0.55	0.67	4.90*	1.87
Jun (0.53)						0.00	0.82	0.70	0.82	5.05*	2.02
Jul (0.53)							0.82	0.70	0.82	5.05*	2.02
Aug (1.35)								0.12	0.00	4.23*	1.20
Sep (1.23)									0.12	4.35*	1.32
Oct (1.35)										4.23*	1.20
Nov (5.58)											3.03

*Significant at α = .05, HSD = 3.78.

Table 2.2A-6
cont'd

STATISTICAL COMPARISON OF CHLOROPHYLL-a OFFSHORE SURFACE STATIONS ST. LUCIE PLANT JANUARY - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	5	9.67612833	1.93522567
ERROR	54	111.65[illegible]37000	2.06767352
CORRECTED TOTAL	59	121.33049833	

SOURCE	DF	TYPE 1 SS	F VALUE	PR > F
STATION	5	9.67612833	0.94	0.4663

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=54 MS=2.06767

GROUPING	MEAN	N	STATION
A	2.588000	10	1
A	2.066000	10	0
A	1.874000	10	5
A	1.872000	10	2
A	1.482000	10	4
A	1.357000	10	3

Table 2.2A-6
cont'd

STATISTICAL COMPARISON OF CHLOROPHYLL-*a*
OFFSHORE BOTTOM STATIONS
ST. LUCIE PLANT
JANUARY - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	5	25.88618833	5.17723767
ERROR	54	204.18667000	3.78123463
CORRECTED TOTAL	59	230.07285833	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	25.88618833	1.37	0.2497

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=54 MS=3.78123

GROUPING		MEAN	N	STATION
	A	3.785000	10	1
B	A	2.433000	10	0
B	A	2.226000	10	2
B	A	2.078000	10	5
B	A	2.018000	10	4
B		1.775000	10	3

Table 2.2A-7

DIFFERENCES IN STATION MEAN CAROTENOID (TUKEY'S TEST)
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977[a]

SURFACE					
Station (Mean)	1 (2.66)	2 (1.91)	3 (1.50)	4 (1.73)	5 (1.77)
0 (2.05)	0.61	0.14	0.55	0.32	0.28
1 (2.66)		0.75	1.16*	0.93*	0.89*
2 (1.91)			0.41	0.18	0.14
3 (1.50)				0.23	0.27
4 (1.73)					0.04

*Significant at α = .05; HSD = 0.65.

BOTTOM					
Station (Mean)	1 (2.56)	2 (1.98)	3 (1.81)	4 (1.99)	5 (2.51)
0 (3.45)	0.89	1.47*	1.64*	1.46*	0.94
1 (2.56)		0.58	0.75	0.57	0.05
2 (1.98)			0.17	0.01	0.53
3 (1.81)				0.18	0.70
4 (1.99)					0.52

*Significant at α = .05; HSD = 1.07.

[a]January and February 1977 not included in analysis.

Table 2.2A-7
cont'd

DIFFERENCES IN MONTHLY MEAN CAROTENOID (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (1.88)	Mar (1.02)	Apr (0.50)	May (0.68)	Jun (0.43)	Jul (0.43)	Aug (1.20)	Sep (1.37)	Oct (1.82)	Nov (7.58)	Dec (0.97)
Jan (0.99)	0.89	0.03	0.49	0.31	0.56	0.56	0.21	0.38	0.83	6.59*	0.02
Feb (1.88)		0.86	1.38	1.20	1.45	1.45	0.68	0.51	0.06	5.70*	0.91
Mar (1.02)			0.52	0.34	0.59	0.59	0.18	0.35	0.80	6.56*	0.05
Apr (0.50)				0.18	0.07	0.07	0.70	0.87	1.32	7.08*	0.47
May (0.68)					0.25	0.25	0.52	0.69	1.14	6.90*	0.29
Jun (0.43)						0.00	0.77	0.94	1.39	7.15	0.54
Jul (0.43)							0.77	0.94	1.39	7.15*	0.54
Aug (1.20)								0.17	0.62	6.38*	0.23
Sep (1.37)									0.45	6.21*	0.40
Oct (1.82)										5.76*	0.85
Nov (7.58)											6.61*

* Significant at $\alpha = .05$, HSD = 1.50.

Table 2.2A-7
cont'd

DIFFERENCES IN MONTHLY MEAN CAROTENOID (TUKEY'S TEST)
OFFSHORE SURFACE STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (1.59)	Mar (0.83)	Apr (0.54)	May (0.70)	Jun (0.59)	Jul (0.31)	Aug (0.97)	Sep (1.55)	Oct (1.49)	Nov (5.15)	Dec (0.89)
Jan (1.22)	0.37	0.39	0.68	0.52	0.63	0.91*	0.25	0.33	0.27	3.93*	0.33
Feb (1.59)		0.76	1.05*	0.89*	1.00*	1.28*	0.62	0.04	0.10	3.56*	0.70
Mar (0.83)			0.29	0.13	0.24	0.52	0.14	0.72	0.66	4.32*	0.06
Apr (0.54)				0.16	0.05	0.23	0.43	1.01*	0.95*	4.61*	0.35
May (0.70)					0.11	0.39	0.27	0.85*	0.79*	4.45*	0.19
Jun (0.59)						0.28	0.38	0.96*	0.90*	4.56*	0.30
Jul (0.31)							0.66	1.24*	1.18*	4.84*	0.58
Aug (0.97)								0.58	0.52	4.18*	0.08
Sep (1.55)									0.06	3.60*	0.66
Oct (1.49)										3.66*	0.60
Nov (5.15)											4.26*

* Significant at α = .05, HSD = 0.78.

Table 2.2A-7
cont'd

DIFFERENCES IN MONTHLY MEAN CAROTENOID (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (1.88)	Mar (1.02)	Apr (0.50)	May (0.68)	Jun (0.43)	Jul (0.43)	Aug (1.20)	Sep (1.37)	Oct (1.82)	Nov (7.58)	Dec (0.97)
Jan (0.99)	0.89	0.03	0.49	0.31	0.56	0.56	0.21	0.38	0.83	6.59*	0.02
Feb (1.88)		0.86	1.38	1.20	1.45	1.45	0.68	0.51	0.06	5.70*	0.91
Mar (1.02)			0.52	0.34	0.59	0.59	0.18	0.35	0.80	6.56*	0.05
Apr (0.50)				0.18	0.07	0.07	0.70	0.87	1.32	7.08*	0.47
May (0.68)					0.25	0.25	0.52	0.69	1.14	6.90*	0.29
Jun (0.43)						0.00	0.77	0.94	1.39	7.15	0.54
Jul (0.43)							0.77	0.94	1.39	7.15*	0.54
Aug (1.20)								0.17	0.62	6.38*	0.23
Sep (1.37)									0.45	6.21*	0.40
Oct (1.82)										5.76*	0.85
Nov (7.58)											6.61*

* Significant at α = .05, HSD = 1.50.

Table 2.2A-7
cont'd

DIFFERENCES IN STATION MEAN CAROTENOID (TUKEY'S TEST)
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
JANUARY - DECEMBER 1977

SURFACE					
Station (Mean)	1 (1.73)	2 (1.31)	3 (1.15)	4 (1.05)	5 (1.27)
0 (1.40)	0.33	0.09	0.25	0.35	0.13
1 (1.73)		0.42	0.58*	0.68*	0.46
2 (1.31)			0.16	0.26	0.04
3 (1.15)				0.10	0.12
4 (1.05)					0.22

*Significant at α = .05; HSD = 0.48.

BOTTOM					
Station (Mean)	1 (1.81)	2 (1.44)	3 (1.06)	4 (1.46)	5 (1.38)
0 (2.34)	0.53	0.90	1.28*	0.88	0.96*
1 (1.81)		0.37	0.75	0.35	0.43
2 (1.44)			0.38	0.02	0.06
3 (1.06)				0.40	0.32
4 (1.46)					0.05

*Significant at α = .05; HSD = 0.92.

Table 2.2A-8
cont'd

DIFFERENCES IN STATION MEAN CAROTENOID (TUKEY'S TEST)
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977[a]

SURFACE					
Station (Mean)	1 (2.66)	2 (1.91)	3 (1.50)	4 (1.73)	5 (1.77)
0 (2.05)	0.61	0.14	0.55	0.32	0.28
1 (2.66)		0.75	1.16*	0.93*	0.89*
2 (1.91)			0.41	0.18	0.14
3 (1.50)				0.23	0.27
4 (1.73)					0.04

*Significant at α = .05; HSD = 0.65.

BOTTOM					
Station (Mean)	1 (2.56)	2 (1.98)	3 (1.81)	4 (1.99)	5 (2.51)
0 (3.45)	0.89	1.47*	1.64*	1.46*	0.94
1 (2.56)		0.58	0.75	0.57	0.05
2 (1.98)			0.17	0.01	0.53
3 (1.81)				0.18	0.70
4 (1.99)					0.52

*Significant at α = .05; HSD = 1.07.

[a]January and February 1977 not included in analysis.

Table 2.2A-8

DIFFERENCES IN STATION MEAN CHLOROPHYLL-*b*
(TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976-DECEMBER 1977[a]

Station (Mean)	1 (0.12)	2 (0.12)	3 (0.12)	4 (0.11)	5 (0.12)
0 (0.21)	0.09	0.09	0.09	0.10*	0.09
1 (0.12)		0.00	0.00	0.01	0.00
2 (0.12)			0.00	0.01	0.00
3 (0.12)				0.01	0.00
4 (0.11)					0.01

* Significant at $\alpha = .05$, HSD = 0.10.
[a] January and February 1977 not included in analysis.

Table 2.2A-8
cont'd

DIFFERENCES IN MONTHLY MEAN CHLOROPHYLL-*b* (TUKEY'S TEST)
OFFSHORE SURFACE STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (0.11)	Mar (0.06)	Apr (0.01)	May (0.06)	Jun (0.04)	Jul (0.03)	Aug (0.16)	Sep (0.08)	Oct (0.13)	Nov (0.17)	Dec (0.11)
Jan (0.11)	0.00	0.05	0.10*	0.05	0.07*	0.08*	0.05	0.03	0.02	0.06	0.00
Feb (0.11)		0.05	0.10*	0.05	0.07*	0.08*	0.05	0.03	0.02	0.06	0.00
Mar (0.06)			0.05	0.00	0.02	0.03	0.10*	0.02	0.07*	0.11*	0.05
Apr (0.01)				0.05	0.03	0.02	0.15*	0.07*	0.12*	0.16*	0.10*
May (0.06)					0.02	0.03	0.10*	0.02	0.07*	0.11*	0.05
Jun (0.04)						0.01	0.12*	0.04	0.09*	0.13*	0.07*
Jul (0.03)							0.13*	0.05	0.10*	0.14*	0.08*
Aug (0.16)								0.08*	0.03	0.01	0.05
Sep (0.08)									0.05	0.09*	0.03
Oct (0.13)										0.04	0.02
Nov (0.17)											0.06

* Significant at $\alpha = .05$, HSD = 0.07.

Table 2.2A-8
cont'd

DIFFERENCES IN MONTHLY MEAN CHLOROPHYLL-*b* (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (O-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (0.17)	Mar (0.04)	Apr (0.01)	May (0.06)	Jun (0.05)	Jul (0.06)	Aug (0.20)	Sep (0.10)	Oct (0.13)	Nov (0.23)	Dec (0.11)
Jan (0.14)	0.03	0.10*	0.13*	0.08*	0.09*	0.08*	0.06	0.04	0.01	0.09*	0.03
Feb (0.17)		0.13*	0.16*	0.11*	0.12*	0.11*	0.03	0.07	0.04	0.06	0.06
Mar (0.04)			0.03	0.02	0.01	0.02	0.16*	0.06	0.09*	0.19*	0.07
Apr (0.01)				0.05	0.04	0.05	0.19*	0.09*	0.12*	0.22*	0.10*
May (0.06)					0.01	0.00	0.14*	0.04	0.07	0.17*	0.05
Jun (0.05)						0.01	0.15*	0.05	0.08*	0.18*	0.06
Jul (0.06)							0.14*	0.04	0.07	0.17*	0.05
Aug (0.20)								0.10*	0.07	0.03	0.09*
Sep (0.10)									0.03	0.13*	0.01
Oct (0.13)										0.10*	0.02
Nov (0.23)											0.12*

* Significant at $\alpha = .05$, HSD = 0.08.

Table 2.2A-9

DIFFERENCES IN STATION MEAN CHLOROPHYLL-*c* (TUKEY'S TEST)
OFFSHORE STATIONS (o-5)
ST. LUCIE PLANT
JANUARY - DECEMBER 1977

SURFACE					
Station (Mean)	1 (0.88)	2 (0.66)	3 (0.59)	4 (0.58)	5 (0.67)
0 (0.70)	0.18	0.04	0.11	0.12	0.03
1 (0.88)		0.22	0.29*	0.30*	0.21
2 (0.66)			0.07	0.08	0.01
3 (0.59)				0.01	0.08
4 (0.58)					0.09

*Significant at $\alpha = .05$; HSD = 0.24.

BOTTOM					
Station (Mean)	1 (0.85)	2 (0.76)	3 (0.56)	4 (0.82)	5 (0.72)
0 (1.10)	0.25	0.34	0.54*	0.28	0.38
1 (0.85)		0.09	0.29	0.03	0.13
2 (0.76)			0.20	0.06	0.04
3 (0.56)				0.26	0.16
4 (0.82)					0.10

*Significant at $\alpha = .05$; HSD = 0.42.

Table 2.2A-9
cont'd

DIFFERENCES IN STATION MEAN CHLOROPHYLL-*c* (TUKEY'S TEST)
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977[a]

SURFACE

Station (Mean)	1 (1.21)	2 (0.96)	3 (0.75)	4 (0.89)	5 (0.82)
0 (1.00)	0.21	0.04	0.25	0.11	0.18
1 (1.21)		0.25	0.46*	0.32*	0.39*
2 (0.96)			0.21	0.07	0.14
3 (0.75)				0.14	0.07
4 (0.89)					0.07

*Significant at α = .05; HSD = 0.30

BOTTOM

Station (Mean)	1 (1.18)	2 (0.96)	3 (0.86)	4 (0.98)	5 (1.13)
0 (1.54)	0.36	0.58*	0.68*	0.56*	0.41
1 (1.18)		0.22	0.32	0.20	0.05
2 (0.96)			0.10	0.02	0.17
3 (0.86)				0.12	0.27
4 (0.98)					0.15

*Significant at α = .05; HSD = 0.42

[a]January and February not included in analysis.

Table 2.2A-9
cont'd

DIFFERENCES IN MONTHLY MEAN CHLOROPHYLL-*c* (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (0.99)	Mar (0.60)	Apr (0.19)	May (0.27)	Jun (0.19)	Jul (0.23)	Aug (0.75)	Sep (0.77)	Oct (0.83)	Nov (3.60)	Dec (0.56)
Jan (0.63)	0.36	0.03	0.44	0.36	0.44	0.40	0.12	0.14	0.20	2.97*	0.07
Feb (0.99)		0.39	0.80*	0.72*	0.80*	0.76*	0.24	0.22	0.16	2.61*	0.43
Mar (0.60)			0.41	0.33	0.41	0.37	0.15	0.17	0.23	3.00*	0.04
Apr (0.19)				0.08	0.00	0.04	0.56	0.58	0.64*	3.41*	0.37
May (0.27)					0.08	0.04	0.48	0.50	0.56	3.33*	0.29
Jun (0.19)						0.04	0.56	0.58	0.64*	3.41*	0.37
Jul (0.23)							0.52	0.54	0.60*	3.37*	0.33
Aug (0.75)								0.02	0.08	2.85*	0.19
Sep (0.77)									0.06	2.83*	0.21
Oct (0.83)										2.77*	0.27
Nov (3.60)											3.04*

* Significant at α = .05, HSD = 0.59.

Table 2.2A-9
cont'd

DIFFERENCES IN MONTHLY MEAN CHLOROPHYLL-*c* (TUKEY'S TEST)
OFFSHORE SURFACE STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (0.81)	Mar (0.50)	Apr (0.22)	May (0.29)	Jun (0.30)	Jul (0.14)	Aug (0.52)	Sep (0.88)	Oct (0.73)	Nov (2.62)	Dec (0.52)
Jan (0.63)	0.18	0.13	0.41*	0.34	0.33	0.49*	0.11	0.25	0.10	1.99*	0.11
Feb (0.81)		0.31	0.59*	0.52*	0.51*	0.67*	0.29	0.07	0.08	1.81*	0.29
Mar (0.50)			0.28	0.21	0.20	0.36	0.02	0.38	0.23	2.12*	0.02
Apr (0.22)				0.07	0.08	0.08	0.30	0.66*	0.51*	2.40*	0.30
May (0.29)					0.01	0.15	0.23	0.59*	0.44*	2.33*	0.23
Jun (0.30)						0.16	0.22	0.58*	0.43*	2.32*	0.22
Jul (0.14)							0.38	0.74*	0.59*	2.48*	0.38
Aug (0.52)								0.36	0.21	2.10*	0.00
Sep (0.88)									0.15	1.74*	0.36
Oct (0.73)										1.89*	0.21
Nov (2.62)											2.10*

* Significant at α = .05, HSD = 0.39.

Table 2.2A-10

STATISTICAL COMPARISON OF PHAEOPIGMENT
OFFSHORE SURFACE STATIONS
ST. LUCIE PLANT
MARCH 1976 - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS X YEARS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	17	0.50151500	0.02950088
ERROR	174	2.27581000	0.01307937
CORRECTED TOTAL	191	2.77732500	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	0.27553125	4.21	0.0013
YEAR	2	0.05949722	2.27	0.1059
STATION*YEAR	10	0.16648653	1.27	0.2491

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=174 MS=.0130794

GROUPING	MEAN	N	STATION
A	0.139687	32	1
B	0.056250	32	3
B	0.041875	32	0
B	0.036562	32	4
B	0.036250	32	2
B	0.030625	32	5

DUNCAN'S MULTIPLE RANGE TEST: YEARS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=174 MS=.0130794

GROUPING		MEAN	N	YEAR
	A	0.080333	60	76
B	A	0.054722	72	77
B		0.036000	60	78

Table 2.2A-10
cont'd

DIFFERENCES IN MONTHLY MEAN PHAEOPIGMENT (TUKEY'S TEST)
OFFSHORE SURFACE STATIONS (O-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (0.05)	Mar (0.03)	Apr (0.01)	May (0.04)	Jun (0.05)	Jul (0.03)	Aug (0.04)	Sep (0.01)	Oct (0.07)	Nov (0.12)	Dec (0.12)
Jan (0.09)	0.04	0.06	0.08	0.05	0.04	0.06	0.05	0.08	0.02	0.03	0.03
Feb (0.05)		0.02	0.04	0.01	0.00	0.02	0.01	0.04	0.02	0.07	0.07
Mar (0.03)			0.02	0.01	0.01	0.00	0.01	0.02	0.04	0.09	0.09
Apr (0.01)				0.03	0.04	0.02	0.03	0.00	0.06	0.11	0.11
May (0.04)					0.01	0.01	0.00	0.03	0.03	0.08	0.08
Jun (0.05)						0.02	0.01	0.04	0.02	0.07	0.07
Jul (0.03)							0.01	0.02	0.04	0.09	0.09
Aug (0.04)								0.03	0.03	0.08	0.08
Sep (0.01)									0.06	0.11	0.11
Oct (0.07)										0.05	0.05
Nov (0.12)											0.00

* Significant at $\alpha = .05$, HSD = 0.12.

Table 2.2A-10
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN PHAEOPIGMENT (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	Feb (0.20)	Mar (0.05)	Apr (0.02)	May (0.04)	Jun (0.06)	Jul (0.05)	Aug (0.11)	Sep (0.05)	Oct (0.15)	Nov (0.40)	Dec (0.14)
Jan (0.11)	0.09	0.06	0.09	0.07	0.05	0.06	0.00	0.06	0.04	0.29*	0.03
Feb (0.20)		0.15	0.18	0.16	0.14	0.15	0.09	0.15	0.05	0.20	0.06
Mar (0.05)			0.03	0.01	0.01	0.00	0.06	0.00	0.10	0.35*	0.09
Apr (0.02)				0.02	0.04	0.03	0.09	0.03	0.13	0.38*	0.12
May (0.04)					0.02	0.01	0.07	0.01	0.11	0.36*	0.10
Jun (0.06)						0.01	0.05	0.01	0.09	0.34*	0.08
Jul (0.05)							0.06	0.00	0.10	0.35*	0.09
Aug (0.11)								0.06	0.04	0.29*	0.03
Sep (0.05)									0.10	0.35*	0.09
Oct (0.15)										0.25	0.01
Nov (0.40)											0.26

* Significant at α = .05, HSD = 0.27.

Table 2.2A-10
cont'd

DIFFERENCES IN STATION MEAN
PHAEOPIGMENT (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Station (Mean)	1 (0.09)	2 (0.13)	3 (0.04)	4 (0.09)	5 (0.10)
0 (0.23)	0.14	0.10	0.19*	0.14	0.13
1 (0.09)		0.04	0.05	0.00	0.01
2 (0.13)			0.09	0.04	0.03
3 (0.04)				0.05	0.06
4 (0.09)					0.01

* Significant at α = .05, HSD = 0.16.

Table 2.2A-10
cont'd

STATISTICAL COMPARISON OF PHAEOPIGMENT
OFFSHORE BOTTOM STATIONS
ST. LUCIE PLANT
MARCH 1976 - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS X YEARS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	17	5.94994958	0.34999703
ERROR	174	23.19793167	0.13332145
CORRECTED TOTAL	191	29.14788125	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	1.04821875	1.57	0.1691
YEAR	2	3.73020208	13.99	0.0001
STATION*YEAR	10	1.17152875	0.88	0.5543

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=174 MS=0.133321

GROUPING	MEAN	N	STATION
A	0.330625	32	0
A	0.261875	32	5
A	0.208750	32	1
A	0.140000	32	2
A	0.138125	32	3
A	0.133750	32	4

DUNCAN'S MULTIPLE RANGE TEST: YEARS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=174 MS=0.133321

GROUPING	MEAN	N	YEAR
A	0.408833	60	76
B	0.112917	72	77
B	0.102667	60	78

Table 2.2A-10
cont'd

DIFFERENCES IN STATION MEAN
PHAEOPIGMENT (TUKEY'S TEST)
OFFSHORE SURFACE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976-DECEMBER 1977[a]

Station (Mean)	1 (0.18)	2 (0.04)	3 (0.05)	4 (0.04)	5 (0.04)
0 (0.05)	0.13*	0.01	0.00	0.01	0.01
1 (0.18)		0.14*	0.13*	0.14*	0.14*
2 (0.04)			0.01	0.00	0.00
3 (0.05)				0.01	0.01
4 (0.04)					0.00

* Significant at $\alpha = .05$, HSD = 0.12.
[a] January and February 1977 not included in analysis.

Table 2.2A-10
cont'd

DIFFERENCES IN STATION MEAN
PHAEOPIGMENT (TUKEY'S TEST)
OFFSHORE BOTTOM STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Station (Mean)	1 (0.09)	2 (0.13)	3 (0.04)	4 (0.09)	5 (0.10)
0 (0.23)	0.14	0.10	0.19*	0.14	0.13
1 (0.09)		0.04	0.05	0.00	0.01
2 (0.13)			0.09	0.04	0.03
3 (0.04)				0.05	0.06
4 (0.09)					0.01

* Significant at α = .05, HSD = 0.16.

Table 2.2A-10
cont'd

ANALYSIS OF VARIANCE FOR PHAEOPIGMENT
AT OFFSHORE STATIONS
ST. LUCIE PLANT
MARCH 1976-DECEMBER 1977

January-December 1977					
Depth	Source	Degrees of freedom	Sum of squares	Mean squares	F
Surface	Months	11	0.08794	0.00799	2.26*
	Stations	5	0.03214	0.00643	1.81
	Error	55	0.19474	0.00354	
	Total	71	0.31482		
Bottom	Months	11	0.71894	0.06536	3.49*
	Stations	5	0.23028	0.04606	2.46*
	Error	55	1.02792	0.01869	
	Total	71	1.97715		

March 1976-December 1977[a]					
Depth	Source	Degrees of freedom	Sum of squares	Mean squares	F
Surface	Years (Y)	1	0.02640	0.02640	1.53
	Months (M)	9	0.33580	0.03731	2.17*
	Stations (S)	5	0.30684	0.06137	3.57*
	Y x M	9	0.10387	0.01154	0.67
	Y x S	5	0.09376	0.01875	1.09
	M x S	45	0.72721	0.01616	0.94
	Error	45	0.77348	0.01719	
	Total	119	2.36735		
Bottom	Years (Y)	1	2.78312	2.78312	24.12*
	Months (M)	9	5.24665	0.58296	5.05*
	Stations (S)	5	1.12802	0.22560	1.96
	Y x M	9	3.21995	0.35777	3.10*
	Y x S	5	0.61625	0.12325	1.07
	M x S	45	7.26692	0.16149	1.40
	Error	45	5.19240	0.11539	
	Total	119	25.45328		

* Significant at α = .05.
[a] January and February 1977 not included in analysis.

Table 2.2A-10
cont'd

STATISTICAL COMPARISON OF PHAEOPIGMENT
OFFSHORE SURFACE STATIONS
ST. LUCIE PLANT
JANUARY - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	5	0.04312000	0.00862400
ERROR	54	0.28112000	0.00520593
CORRECTED TOTAL	59	0.32424000	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	0.04312000	1.66	0.1600

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=54 MS=.0052059

GROUPING		MEAN	N	STATION
	A	0.077000	10	1
B	A	0.063000	10	3
B	A	0.037000	10	2
B	A	0.026000	10	4
B	A	0.012000	10	0
B		0.001000	10	5

Table 2.2A-10
cont'd

STATISTICAL COMPARISON OF PHAEOPIGMENT
OFFSHORE BOTTOM STATIONS
ST. LUCIE PLANT
JANUARY - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	
MODEL	5	0.38465333	0.07693067	
ERROR	54	2.03792000	0.03773926	
CORRECTED TOTAL	59	2.42257333		
SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	0.38465333	2.04	0.0870

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=54 MS=.0377393

GROUPING		MEAN	N	STATION
	A	0.263000	10	1
B	A	0.139000	10	0
B	A	0.086000	10	5
B		0.058000	10	3
B		0.037000	10	4
B		0.033000	10	2

Table 2.2A-11

ANALYSIS OF VARIANCE FOR GROSS PRIMARY
PRODUCTIVITY AT OFFSHORE STATIONS (0 through 5)
ST. LUCIE PLANT

JANUARY-NOVEMBER 1978

Source	Degrees of freedom	Sum of squares	Mean squares	F
Stations	5	0.33223	0.06645	1.78
Months	10	8.71134	0.87113	23.32*
Error	50	1.86746	0.03735	
Total	65	10.91103		

*Significant at α=.05.

MARCH 1976-NOVEMBER 1978[a]

Source	Degrees of freedom	Sum of squares	Mean squares	F
Stations	5	13.89835	2.77967	0.89
Error	164	510.30809	3.11163	
Total	169	524.20644		

[a]The following dates are not included in the analysis because data were not available at one or more stations: March, August and October 1976, and January, February, April, August and December 1977.

Table 2.2A-12

PEARSON CORRELATION COEFFICIENTS (r) FOR PHYTOPLANKTON DENSITY AND
PIGMENTS VS. PHYSICAL AND CHEMICAL PARAMETERS, OFFSHORE SURFACE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977

Parameter	Phytoplankton Density	Chlorophyll-*a*	Phaeopigment	Chlorophyll-*b*	Chlorophyll-*c*	Carotenoids
Temperature	-.0653	.0315	-.0735	.0060	.0312	.0427
Temperature[a] (n=132)[a]	-.0714	.0294	-.0716	.0131	.0286	.0394
Salinity	-.1397	-.1935*	.0290	.1187	-.1524*	-.2225*
Salinity[a] (n=132)	-.1403	-.1954*	.0283	.1153	-.1547*	-.2246*
Dissolved Oxygen	.1073	.1277	-.0243	.0115	.1466*	.0857
Dissolved Oxygen[a] (n=132)	.1007	.1271	-.0248	.0064	.1464*	.0841
Nitrate	.0113	.1265	-.0989	.0772	.1450	.1406
Nitrate[a] (n=56)	.0137	.1334	-.1073	.0854	.1532	.1516
Nitrite	-.0400	-.0873	-.0599	.3017*	-.0288	-.0347
Nitrite[a] (n=132)	-.0525	-.0864	-.0798	.2781*	-.0296	-.0282
Ammonia	-.1075	-.1403	-.1331	.0715	-.1287	-.0958
Ammonia[a] (n=132)	-.0605	-.0905	-.1164	.0785	-.0696	-.0483
Phosphate	-.1201	-.1240	-.0335	.0582	-.1136	-.1142
Phosphate[a] (n=102)	-.0982	-.0961	-.0252	.0701	-.0844	-.0864
Silica	.0312	.0752	.0677	.4186*	.1061	.1122
Silica[a] (n=66)	-.0596	-.0120	.0350	.3754*	.0186	.0208

*Significant at α = .05.

[a]Number of observations.

Table 2.2A-12
cont'd

PEARSON CORRELATION COEFFICIENTS (r) FOR PHYTOPLANKTON DENSITY AND
PIGMENTS VS. PHYSICAL AND CHEMICAL PARAMETERS, OFFSHORE BOTTOM STATIONS (O-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977

Parameter	Phytoplankton Density	Chlorophyll-*a*	Phaeopigment	Chlorophyll-*b*	Chlorophyll-*c*	Carotenoids
Temperature	.0050	.0287	-.0443	-.0526	-.0059	.0118
Temperature^2	.0038	.0255	-.0429	-.0500	-.0118	.0074
(n=132)[a]						
Salinity	-.2883*	-.2203*	-.3178*	-.2477*	-.2844*	-.3293*
Salinity^2	-.2882*	-.2214*	-.3158*	-.2491	-.2852*	-.3294*
(n=132)						
Dissolved Oxygen	.0653	.0476	-.0947	.0026	.0388	.0050
Dissolved Oxygen^2	.0598	.0408	-.0998	-.0071	.0307	-.0041
(n=132)						
Nitrate	.1527	.2148	.2208	.2371*	.2285*	.2013
Nitrate^2	-.0149	.0276	.0666	.0975	.0334	.0143
(n=54)						
Nitrite	-.0181	-.0199	-.0140	.1240	.0152	-.0027
Nitrite^2	-.0464	-.0590	-.0353	.1192	-.0183	-.0276
(n=132)						
Ammonia	.0130	.0589	-.0042	.0883	.0667	.0813
Ammonia^2	.0397	.0441	.0229	.0256	.0330	.0312
(n=132)						
Phosphate	.3817*	.3149*	.3871*	.4023*	.3533*	.3436*
Phosphate^2	.4208*	[illegible]*	.4266*	.4180*	.3940*	.3908*
(n=102)						
Silica	.0508	.1683	.2040	.6080*	.2271*	.1966
Silica^2	-.0131	.0921	.1486	.5833*	.1547	.1191
(n=66)						

*Significant at α = .05.

[a]Number of observations.

Table 2.2A-13

MULTIPLE REGRESSION FOR OFFSHORE STATIONS (O-5)
ST. LUCIE PLANT
MARCH 1976-DECEMBER 1977

Dependent variables	Independent variables[a]	R	R^2
Density	Temperature	0.294	0.086
	Nitrite	0.357	0.128
	$Nitrite^2$	0.494	0.244
	$Ammonia^2$	0.517	0.26[illegible]
Active chlorophyll-*a*	Temperature	0.324	0.105
	Nitrite	0.412	0.170
	$Nitrite^2$	0.565	0.320
	Silica	0.588	0.346
	$Silica^2$	0.653	0.426
	$Temperature^2$	0.669	0.447
	Nitrate	0.678	0.460
	$Nitrate^2$	0.687	0.472
Phaeopigment	Ammonia	0.434	0.188
Chlorophyll-*b*	Silica	0.521	0.272
	Temperature	0.672	0.452
	$Silica^2$	0.706	0.499
	Ammonia	0.732	0.536
	$Ammonia^2$	0.755	0.571
	Salinity	0.780	0.609
Chlorophyll-*c*	Temperature	0.320	0.102
	Nitrite	0.424	0.180
	$Nitrite^2$	0.575	0.330
	Silica	0.612	0.375
	$Silica^2$	0.675	0.455
	$Temperature^2$	0.691	0.478
Carotenoid	Temperature	0.307	0.094
	Nitrite	0.402	0.162
	$Nitrite^2$	0.549	0.301
	Silica	0.578	0.335
	$Silica^2$	0.641	0.411
	$Temperature^2$	0.655	0.430

[a] When the F-value to enter the regression was not significant (α=.05) for any independent variable, the stepwise procedure was stopped.

Table 2.2A-13
cont'd
CHLOROPHYLL-*a* STEPWISE ANALYSIS[a]
OFFSHORE STATIONS (0 through 5)
ST. LUCIE PLANT
JANUARY - NOVEMBER 1978

SURFACE

R SQUARE = 0.57164036

	DF	SUM OF SQUARES	MEAN SQUARE	F	PROB>F
REGRESSION	6	67.85104274	11.30850712	10.23	0.0001
ERROR	46	50.84428933	1.10531064		
TOTAL	52	118.69533208			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	17.68375974				
TEMP	-0.24252818	0.05058191	25.41079660	22.99	0.0001
DO	-1.49641584	0.26095945	36.34484991	32.88	0.0001
NITRATE	-7.46766298	4.52894871	3.09510025	2.72	0.1060
NITRITE	171.58527542	76.89123953	5.59415503	4.98	0.0306
AMMONIA	-4.76989634	2.45777963	4.15339509	3.77	0.0584
SI	2.13423646	0.76130716	8.65659547	7.86	0.0074

BOTTOM

R SQUARE = 0.28696314

	DF	SUM OF SQUARES	MEAN SQUARE	F	PROB>F
REGRESSION	4	64.67297556	16.16824389	4.93	0.0020
ERROR	49	160.69730777	3.27953669		
TOTAL	53	225.37028333			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	64.20509564				
TEMP	-0.07652832	0.06135004	5.13301950	1.56	0.2182
SALINITY	-1.65923126	0.53816040	31.17474341	9.51	0.0034
NITRITE	491.63969126	164.34119827	29.35024853	8.95	0.0043
PO	-312.44999160	168.03431372	11.33907434	3.46	0.0689

[a]The first step to include non-significant type II sums of squares was selected as the best model.

Table 2.2A-13
cont'd

PHYTOPLANKTON STEPWISE ANALYSIS[a]
OFFSHORE STATIONS (0 THROUGH 5)
ST. LUCIE PLANT
JANUARY - NOVEMBER 1978

SURFACE

R SQUARE = 0.50010699

	DF	SUM OF SQUARES	MEAN SQUARE	F	PROB>F
REGRESSION	6	19.30114903	3.21685817	7.67	0.0001
ERROR	46	19.29289059	0.41941067		
TOTAL	52	38.59403962			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	1.28027634				
TEMP	-0.16012314	0.03032399	11.69432233	27.88	0.0001
SALINITY	0.62108113	0.20925495	3.69474654	8.81	0.0047
DO	-0.91348665	0.17226699	11.79073257	28.11	0.0001
NITRATE	-6.34521997	2.79956502	2.15452589	5.14	0.0282
NITRITE	123.91576766	46.68463579	2.95491276	7.05	0.0109
AMMONIA	1.78841605	1.51312908	0.58590153	1.40	0.2433

BOTTOM

R SQUARE = 0.46585523

	DF	SUM OF SQUARES	MEAN SQUARE	F	PROB>F
REGRESSION	6	14.77688080	2.46281347	6.83	0.0001
ERROR	47	16.94301840	0.36048975		
TOTAL	53	31.71989920			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	22.17078888				
TEMP	-0.13660566	0.03067088	7.14745242	19.83	0.0001
DO	-0.66079200	0.15462965	6.58318263	18.26	0.0001
NITRATE	-7.87598296	2.99048555	2.49916524	6.93	0.0114
NITRITE	199.15237537	56.31018879	4.50910073	12.51	0.0009
AMMONIA	1.84458686	1.59352155	0.48303129	1.34	0.2529
PO	-169.50699866	56.06431788	3.29530074	9.14	0.0040

[a]The first step to include non-significant type II sums of squares was selected as the best model.

Table 2.2A-14

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
26 MARCH 1976

Taxon	Station and depth[c] 11	12	0		1		2		3		4		5	
	Ø	Ø	S[d]	B	S	B	S[e]	B	S	B	S	B	S	B
Protozoa		0.4 (<1)		2.3 (<1)	40.0 (2)	1.7 (1)	32.7 (2)	1.2 (<1)	1.2 (<1)	2.6 (<1)		19.5 (1)		18.0 (<1)
Coelenterata		1.1 (<1)		2.3 (<1)		3.5 (3)	8.2 (1)		18.0 (1)	5.2 (<1)		6.5 (<1)		9.0 (<1)
Mollusca	1.4 (<1)			13.8 (3)	51.5 (2)	3.5 (3)	89.8 (6)	12.0 (4)	34.8 (2)	22.3 (1)		292.0 (12)	432.8 (12)	1480.0 (23)
Polychaeta	1.4 (<1)								1.2 (<1)	2.6 (<1)		3.2 (<1)	9.0 (<1)	9.0 (<1)
Crustacea														
nauplii	10.8 (1)		3.4 (11)				8.2 (1)		4.8 (<1)	2.6 (<1)		32.5 (1)		
cladocera									2.4 (<1)		5.2 (<1)	6.5 (<1)		
ostracoda	0.9 (<1)		2.6 (8)	2.3 (<1)	165.2 (7)	6.9 (5)	40.8 (3)	21.5 (8)	31.2 (2)	137.5 (8)		133.0 (6)	343.4 (10)	758.0 (12)
copepoda	111.4 (7)	14.9 (3)	18.0 (58)	419.0 (75)	1392.8 (62)	100.5 (73)	841.0 (56)	210.3 (75)	964.8 (61)	1181.9 (72)	1394.1 (95)	1505.6 (63)	2289.3 (65)	3645.8 (56)
cirripedia (barnacle) nauplii	1313.3 (86)	447.6 (93)	0.9 (3)	9.2 (2)	17.1 (1)		40.8 (3)	2.4 (1)		5.3 (<1)		22.7 (1)	1.8 (<1)	9.0 (<1)
decapoda	34.7 (2)	8.1 (2)	2.6 (8)	46.0 (8)	285.4 (13)	3.4 (3)	122.5 (8)	22.8 (8)	358.0 (23)	147.8 (9)	58.8 (4)	175.2 (7)	291.5 (8)	243.7 (4)
others	5.2 (<1)	3.5 (1)		6.9 (1)	97.0 (4)	5.2 (4)	8.2 (1)	2.4 (1)	6.0 (<1)	11.8 (1)	3.5 (<1)	6.4 (<1)	37.7 (1)	162.4 (3)
Chaetognatha			0.9 (3)	4.6 (1)	22.8 (1)	1.7 (1)		2.4 (1)	18.0 (1)	10.4 (1)	5.1 (<1)	35.5 (2)	69.8 (2)	99.3 (2)
Chordata														
urochordata	51.2 (3)							1.2 (<1)	30.0 (2)	28.8 (2)	3.5 (<1)	35.7 (2)		
fish	1.4 (<1)			23.0 (4)	28.5 (1)	5.2 (4)	16.3 (1)		10.8 (1)	1.3 (<1)			1.8 (<1)	

Table 2.2A-14

cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
26 MARCH 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S[d]	B	S	B	S[e]	B	S	B	S	B	S	B
Eggs	1.6 (<1)	4.9 (1)	2.6 (8)	29.9 (5)	137.0 (6)	6.9 (5)	302.1 (20)	6.0 (2)	103.3 (7)	73.3 (4)		126.6 (5)	51.9 (2)	54.1 (1)
Miscellaneous	1.4 (<1)													
TOTAL	1534.7	480.5	31.0	559.3	2237.6	138.5	1510.6	282.2	1584.5	1633.4	1470.2	2400.9	3529.0	6488.3

[a] Values expressed are undamaged zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table H-151.

[c] Ø = oblique; S = surface; B = bottom.

[d] Sample not preserved immediately.

[e] Scyphozoan medusa removed from sample before analysis.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
4 APRIL 1976

Taxon	Station and depth[c]													
	11	12	0		1		2		3		4		5	
	Ø	Ø	S	Bd	S	B	S	Bd	S	B	S	B	S	Bd
Protozoa		2.5 (<1)					1.5 (<1)	0.9 (<1)	6.7 (<1)	33.9 (1)	1.6 (<1)	16.1 (<1)		
Coelenterata			6.7 (2)	5.5 (<1)	8.1 (1)	1.2 (<1)	11.5 (4)		8.9 (<1)		2.4 (<1)	2.7 (<1)	26.6 (9)	2.6 (<1)
Mollusca	1.9 (<1)	1.2 (<1)	36.5 (9)	201.0 (6)	82.9 (13)	402.6 (16)	12.9 (4)	82.5 (26)	32.5 (3)	3096.1 (57)	8.8 (3)	260.8 (8)	17.1 (6)	106.5 (10)
Polychaeta	1.2 (<1)		3.7 (<1)		6.0 (<1)		2.3 (<1)		6.7 (<1)	24.2 (<1)		21.5 (<1)	1.7 (<1)	
Crustacea														
nauplii		0.6 (<1)	6.0 (1)	35.8 (1)	4.1 (<1)	2.5 (<1)	3.8 (1)	9.2 (3)	10.1 (<1)	4.8 (<1)	3.2 (1)	75.3 (2)	5.1 (<1)	7.8 (1)
cladocera							0.8 (<1)							
ostracoda						2.5 (<1)								
copepoda	52.7 (20)	34.0 (5)	223.0 (55)	2632.9 (81)	358.1 (58)	1644.5 (73)	155.4 (48)	126.1 (40)	378.9 (33)	1787.8 (33)	112.1 (35)	1096.9 (33)	151.7 (49)	633.5 (62)
cirripedia (barnacle) nauplii	0.6 (<1)	648.1 (92)	7.4 (2)	8.3 (<1)	14.2 (2)	22.4 (<1)	3.8 (1)		4.5 (<1)	4.8 (<1)	1.6 (<1)	26.9 (<1)	24.8 (8)	15.6 (2)
decapoda	16.1 (6)	6.9 (<1)	34.1 (9)	159.8 (5)	82.9 (13)	129.3 (5)	7.7 (2)	23.2 (7)	107.7 (9)	208.3 (4)	9.6 (3)	1196.3 (36)	23.2 (8)	160.9 (16)
others	165.7 (62)	1.3 (<1)	8.2 (2)	11.1 (<1)		6.2 (<1)				4.8 (<1)	2.4 (<1)	5.4 (<1)		2.6 (<1)
Chaetognatha			1.4 (<1)				5.4 (2)		4.4 (<1)			2.7 (<1)	0.9 (<1)	
Chordata														
urochordata	3.8 (1)		2.2 (<1)	41.3 (1)	10.1 (2)	54.6 (2)	29.6 (9)	49.1 (16)	352.0 (31)	193.8 (4)	108.1 (34)	427.4 (13)	8.6 (3)	64.9 (6)
fish	11.8 (4)		5.9 (1)	5.5 (<1)	2.0 (<1)	1.2 (<1)	66.0 (21)		206.3 (18)	4.8 (<1)	12.0 (<1)	8.1 (<1)	17.2 (6)	2.6 (<1)

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
4 APRIL 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B[d]	S	B	S	B[d]	S	B	S	B	S	B[d]
Eggs	11.8 (4)	6.3 (<1)	68.4 (16)	132.2 (4)	46.5 (8)	51.0 (2)	21.2 (7)	21.4 (7)	31.4 (3)	116.3 (2)	59.6 (19)	147.8 (4)	30.0 (9)	28.6 (3)
Miscellaneous	+[e]				2.0 (<1)		+[e]		+[e]		+[e]	+[e]	+[e]	
TOTAL	265.6	700.9	403.5	3233.4	616.9	2518.2	321.9	312.4	1150.1	5479.6	321.4	3287.9	306.9	1025.6

[a] Values expressed are undamaged zooplankters per cubic meter and represent the mean of three subsamples.
[b] For detailed taxonomic listing, see Table H-152.
[c] Ø = oblique; S = surface; B = bottom.
[d] Scyphozoan medusa removed from sample before analysis.
[e] Echinoderm larvae noted as present; however, due to fragility of specimens, a quantitative analysis is not available.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
12 MAY 1976

Taxon	Station and depth[c] 11	12	0		1		2		3		4		5	
	Ø	Ø	S	B	S[d]	B	S	B	S	B	S	B	S	B
Protozoa		4.9 (1)							0.9 (<1)					
Coelenterata	1.1 (<1)		2.5 (5)	74.4 (9)	25.7 (11)	20.7 (8)	1.8 (<1)	8.1 (4)	3.6 (1)	91.4 (7)		6.0 (2)	2.6 (3)	6.1 (3)
Mollusca	3.8 (2)	7.3 (2)	1.7 (3)			1.9 (<1)	2.8 (<1)	1.2 (<1)	2.7 (<1)		10.0 (1)	3.0 (1)	3.7 (4)	6.1 (3)
Polychaeta				11.4 (1)	5.1 (2)		3.7 (<1)		12.7 (2)	6.5 (<1)	10.0 (1)		0.5 (<1)	
Crustacea nauplii	0.7 (<1)			24.7 (3)					8.2 (1)	6.5 (<1)	5.0 (<1)		1.1 (1)	
cladocera												1.5 (1)		
ostracoda					2.6 (1)					222.1 (17)		4.5 (2)		
copepoda	52.6 (26)	143.6 (33)	13.6 (25)	283.4 (36)	66.8 (29)	80.7 (31)	563.7 (85)	98.9 (49)	416.1 (64)	692.7 (52)	599.1 (65)	115.3 (48)	60.7 (61)	128.8 (54)
cirripedia (barnacle) nauplii		12.2 (3)	0.8 (1)		2.6 (1)			2.3 (1)		6.5 (<1)	7.5 (<1)			
decapoda	112.2 (55)	90.0 (21)	2.4 (4)	243.4 (31)	100.2 (43)	124.1 (47)	18.8 (2)	38.5 (19)	44.5 (7)	130.6 (10)	22.5 (2)	52.5 (22)	5.7 (6)	49.1 (21)
others	3.4 (2)	138.7 (32)		15.2 (2)		5.7 (2)		1.2 (<1)	2.7 (<1)	26.1 (2)	7.5 (<1)	7.5 (3)		
Chaetognatha	0.8 (<1)			3.8 (<1)	5.1 (2)	9.4 (4)	18.7 (2)	2.3 (1)	35.4 (5)	19.6 (1)	37.4 (4)		3.1 (3)	6.1 (3)
Chordata urochordata	0.4 (<1)			9.5 (1)		3.8 (1)	30.1 (4)	43.1 (22)	80.0 (12)	98.0 (7)	147.3 (16)	24.0 (10)	2.6 (3)	12.2 (5)
fish							2.8 (<1)	1.2 (<1)			2.5 (<1)		1.6 (2)	

Table 2.2A-14
cont'd
DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
12 MAY 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S[d]	B	S	B	S	B	S	B	S	B
Eggs	29.7 (15)	34.1 (17)	33.9 (62)	121.7 (15)	23.1 (10)	11.3 (4)	38.5 (5)	3.5 (2)	46.3 (7)	39.2 (3)	79.9 (9)	6.0 (2)	17.3 (17)	30.7 (13)
Miscellaneous						+[e]			1.8 (<1)	+[e]				
TOTAL	204.7	430.8	54.9	787.3	231.2	257.6	780.9	200.3	654.9	1339.2	928.7	241.3	98.9	239.1

[a] Values expressed are undamaged zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing see Table H-153.

[c] Ø = oblique; S = surface; B = bottom.

[d] Scyphozoan medusa removed from sample before analysis.

[e] Echinoderm larvae noted as present; however, due to fragility of specimens, a quantitative analysis is not available.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
8 JUNE 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Protozoa	1.5 (<1)	9.7 (2)	9.5 (4)		28.1 (7)	10.6 (1)	5.5 (2)	4.3 (<1)	3.7 (1)	3.6 (<1)	15.1 (3)	2.4 (<1)	6.3 (4)	10.8 (<1)
Coelenterata	1.1 (<1)							4.2 (<1)			2.0 (<1)			1.8 (<1)
Mollusca	12.4 (3)	10.5 (2)	11.8 (5)	19.3 (1)	5.1 (1)	28.9 (2)	16.4 (5)	220.7 (6)	7.4 (1)	60.5 (2)	5.0 (1)	88.7 (7)		337.4 (15)
Polychaeta	3.0 (1)	2.2 (<1)	4.8 (2)	6.9 (<1)	1.3 (<1)	3.0 (<1)	5.5 (2)	2.1 (<1)	7.3 (1)				6.3 (4)	5.4 (<1)
Crustacea														
nauplii		0.7 (<1)	2.4 (1)	1.4 (<1)	3.9 (1)	7.6 (1)	4.4 (1)	19.1 (<1)	7.4 (1)	14.3 (<1)	6.0 (1)		4.2 (2)	5.4 (<1)
cladocera	0.5 (<1)	0.7 (<1)				1.5 (<1)	1.1 (<1)				2.0 (<1)		1.1 (1)	1.8 (<1)
ostracoda										3.6 (<1)				
copepoda	159.3 (41)	310.2 (50)	102.0 (42)	1045.3 (59)	260.5 (61)	949.9 (71)	148.7 (42)	2150.6 (55)	479.2 (69)	2096.7 (63)	361.3 (75)	752.5 (56)	112.6 (66)	1367.4 (59)
cirripedia (barnacle) nauplii	181.1 (47)	243.0 (39)	92.5 (37)	609.3 (34)	80.4 (19)	176.6 (13)	141.0 (40)	946.8 (24)	7.4 (1)	398.7 (12)	34.2 (7)	143.8 (11)	12.6 (7)	285.3 (12)
decapoda	8.1 (3)	12.7 (2)	7.1 (3)	53.7 (4)	15.3 (4)	115.6 (9)	5.5 (2)	507.2 (13)	1.9 (<1)	576.8 (17)	7.0 (1)	273.3 (20)	6.4 (4)	236.9 (10)
others	1.1 (<1)	14.1 (2)		2.8 (<1)	3.9 (1)	4.6 (<1)	4.4 (1)	4.2 (<1)	5.6 (1)	24.9 (1)		9.6 (1)		34.1 (1)
Chaetognatha	0.4 (<1)		2.4 (1)	2.8 (<1)		6.1 (<1)		17.0 (<1)	7.6 (1)	7.1 (<1)	1.0 (<1)	7.2 (1)	2.2 (1)	
Chordata														
urochordata	0.7 (<1)		2.4 (1)	4.1 (<1)	6.4 (1)	3.1 (<1)	1.1 (<1)	8.5 (<1)	148.0 (21)	74.7 (2)	13.1 (3)	19.2 (1)	4.2 (2)	23.3 (1)
fish	0.4 (<1)	1.4 (<1)		1.4 (<1)	10.2 (2)	7.6 (1)	1.1 (<1)	6.4 (<1)	9.3 (1)	14.3 (<1)	18.1 (4)	7.2 (1)	5.3 (3)	

Table 2.2A-14
cont'd
DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
8 JUNE 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Eggs	18.5 (5)	19.4 (3)	11.8 (5)	28.9 (2)	15.4 (4)	13.7 (1)	16.4 (5)	23.4 (1)	9.3 (1)	67.6 (2)	18.1 (4)	33.6 (3)	10.5 (6)	10.8 (<1)
Miscellaneous		+[d]			+[d]	1.5 (<1) / +[d]	+[d]	+[d]	+[d]		+[d]		+[d]	
TOTAL	388.1	624.6	246.7	1775.9	430.5	1330.3	351.1	3914.5	694.1	3342.8	482.9	1337.5	171.7	2320.4

[a] Values expressed are undamaged zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table H-154.

[c] Ø= oblique; S = surface; B = bottom.

[d] Echinoderm larvae noted as present; however, due to fragility of specimens, a quantitative analysis is not available.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
14 JULY 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Protozoa							3.0 (1)						4.2 (1)	
Coelenterata	0.7 (<1)				7.0 (<1)								1.4 (<1)	
Mollusca	0.7 (<1)		6.0 (<1)			16.9 (<1)	6.0 (2)	13.2 (<1)	3.2 (1)	40.9 (1)	1.7 (1)	5.4 (<1)	7.0 (1)	25.3 (3)
Polychaeta			17.9 (1)		35.1 (<1)	5.6 (<1)	3.0 (1)		4.7 (2)	15.7 (1)		16.2 (<1)	1.4 (<1)	
Crustacea nauplii	2.5 (2)		95.6 (3)	6.9 (<1)	42.1 (1)	5.6 (<1)		19.8 (<1)		15.7 (1)			1.4 (<1)	
cladocera														
ostracoda	17.7 (11)		6.0 (<1)	960.9 (40)	28.1 (<1)	2351.6 (35)	1.5 (<1)	112.0 (1)		62.9 (2)	1.7 (1)	108.5 (2)		316.8 (43)
copepoda	59.8 (38)	33.6 (25)	1918.4 (62)	705.1 (30)	6841.8 (85)	3017.0 (45)	154.3 (45)	7630.3 (93)	91.8 (32)	2236.3 (76)	134.2 (43)	4768.3 (90)	541.3 (65)	278.7 (40)
cirripedia (barnacle) nauplii	37.0 (24)	84.4 (62)	35.9 (1)	13.8 (1)	28.1 (<1)	22.6 (<1)		13.2 (<1)		18.9 (1)	1.7 (1)		2.8 (<1)	
decapoda	23.3 (15)	13.8 (10)	131.5 (4)	131.2 (6)	189.7 (2)	383.3 (6)		145.0 (2)	3.1 (1)	147.7 (5)	5.1 (2)	151.9 (3)	39.2 (5)	63.3 (9)
others	1.2 (1)	1.2 (1)	17.9 (1)	89.8 (4)	21.0 (<1)	434.2 (6)		19.8 (<1)	1.6 (1)	31.4 (1)	3.4 (1)	38.0 (1)		
Chaetognatha	2.5 (2)	0.6 (<1)	460.3 (15)	200.4 (8)	625.2 (8)	287.6 (4)	10.6 (3)	72.5 (1)	11.1 (4)	88.1 (3)	8.5 (3)	43.3 (1)	75.5 (9)	
Chordata urochordata	3.2 (2)	0.6 (<1)	35.9 (1)	55.3 (2)	21.1 (<1)	169.2 (3)	15.1 (4)	92.3 (1)	11.1 (4)	28.3 (1)	6.8 (2)		1.4 (<1)	50.7 (7)
fish	7.6 (5)	0.6 (<1)	17.9 (1)			5.6 (<1)	1.5 (<1)						4.2 (1)	

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
14 JULY 1976

Taxon	Station and depth[c]													
	11	12	0		1		2		3		4		5	
	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Eggs	0.5 (<1)	1.7 (1)	340.6 (11)	221.2 (9)	168.6 (2)	67.7 (1)	149.8 (43)	92.3 (1)	164.5 (57)	254.8 (9)	149.5 (48)	162.8 (3)	152.5 (18)	
Miscellaneous														
TOTAL	156.7	136.5	3083.9	2384.6	8007.8	6766.9	344.8	8210.4	291.1	2940.7	312.6	5294.4	832.3	734.8

[a] Values expressed are undamaged zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table H-155.

[c] Ø = oblique; S = surface; B = bottom.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
11 AUGUST 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Protozoa		5.5 (1)	5.6 (<1)		10.8 (<1)	4.7 (1)	11.6 (<1)	7.9 (<1)	11.7 (<1)		4.3 (<1)			
Coelenterata					10.8 (<1)		11.6 (<1)		11.7 (<1)		4.4 (<1)	9.2 (<1)		0.6 (<1)
Mollusca	27.2 (1)	5.5 (1)	13.1 (1)	8.7 (3)	195.0 (4)	18.8 (5)	104.4 (3)	365.4 (5)	70.0 (2)	205.0 (3)	28.3 (1)	142.5 (1)	116.5 (4)	15.0 (1)
Polychaeta	4.5 (<1)	6.8 (1)			1028.8 (20)		11.6 (<1)		11.7 (<1)	14.6 (<1)		4.6 (<1)		0.6 (<1)
Crustacea														
nauplii	27.2 (1)		3.7 (<1)	8.7 (3)	10.8 (<1)	9.4 (2)		7.9 (<1)				4.6 (<1)	2.1 (<1)	
cladocera	4.5 (<1)		655.3 (26)	66.9 (23)	1516.1 (29)	117.4 (29)	1246.8 (33)	230.3 (3)	268.3 (7)	2578.2 (32)	130.9 (3)	4187.1 (36)	1226.3 (40)	137.0 (12)
ostracoda							11.6 (<1)	15.9 (<1)		483.4 (6)		114.9 (1)	2.1 (<1)	2.3 (<1)
copepoda	417.0 (21)	128.9 (14)	1739.9 (69)	148.4 (52)	1895.2 (37)	103.3 (25)	2087.7 (55)	4662.0 (58)	3161.7 (80)	3925.8 (48)	3451.4 (91)	6126.6 (53)	1471.9 (47)	526.9 (46)
cirripedia (barnacle) nauplii	1346.0 (68)	744.4 (79)	18.7 (1)		140.8 (3)	47.0 (11)	11.6 (<1)	587.7 (7)	35.0 (1)	58.6 (1)	4.3 (<1)	372.3 (3)	21.2 (1)	163.6 (14)
decapoda	27.2 (1)	16.5 (2)	9.4 (<1)	49.4 (17)	205.8 (4)	84.6 (21)	121.8 (3)	2041.2 (25)	23.3 (1)	161.0 (2)	6.6 (<1)	344.7 (3)	163.1 (5)	277.1 (24)
others	4.5 (<1)				32.5 (1)		5.8 (<1)	15.8 (<1)	11.7 (<1)	29.2 (<1)		59.7 (1)	2.1 (<1)	4.7 (<1)
Chaetognatha	4.5 (<1)	15.1 (2)	50.5 (2)		97.4 (2)		81.2 (2)	103.2 (1)	35.0 (1)	146.4 (2)	43.7 (1)	78.1 (1)	61.4 (2)	16.8 (1)
Chordata														
urochordata	9.0 (<1)	6.9 (1)	18.7 (1)		10.8 (<1)	9.4 (2)	5.8 (<1)	47.7 (1)	233.3 (6)	410.2 (5)	74.2 (2)	87.3 (1)	21.2 (1)	6.4 (1)
fish	99.7 (5)	8.2 (1)	11.2 (<1)	2.9 (1)		4.7 (1)	29.0 (1)		46.7 (1)	58.5 (1)	21.8 (1)	9.2 (<1)	6.4 (<1)	1.7 (<1)

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
11 AUGUST 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Eggs			9.3 (<1)			9.4 (2)	40.6 (1)	7.9 (<1)	11.7 (<1)	29.3 (<1)	15.3 (<1)		6.4 (<1)	2.9 (<1)
Miscellaneous	+[d]	+[d]			+[d]	+[d]	+[d]		11.7 (<1)	+[d]	+[d]			2.3 (<1)
TOTAL	1971.3	937.8	2535.4	285.0	5154.8	408.7	3781.1	8092.9	3943.5	8100.2	3785.2	11540.8	3100.7	1157.9

[a] Values expressed are undamaged zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table H-156.

[c] Ø = oblique; S = surface; B = bottom.

[d] Echinoderm larvae noted as present, however, due to fragility of specimens, a quantitative analysis is not available.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
14 SEPTEMBER 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Protozoa					2.3 (<1)		15.7 (<1)		3.0 (<1)					
Coelenterata			1.4 (<1)	17.9 (<1)	16.1 (<1)	8.5 (<1)			3.0 (<1)	24.8 (<1)	9.1 (<1)	74.8 (<1)		20.2 (<1)
Mollusca	12.5 (<1)	8.4 (<1)	7.1 (<1)	25.9 (<1)	60.0 (3)	12.7 (<1)	109.9 (1)		32.6 (<1)	105.6 (1)	42.6 (1)	37.4 (<1)	15.3 (<1)	192.2 (1)
Polychaeta	8.4 (<1)				2.3 (<1)		15.3 (<1)		5.9 (<1)	12.4 (<1)			3.8 (<1)	5.1 (<1)
Crustacea														
nauplii	16.6 (<1)		4.3 (<1)	17.9 (<1)	16.2 (<1)	21.2 (1)						12.5 (<1)	3.8 (<1)	
cladocera	58.2 (<1)	8.3 (<1)	351.7 (19)	698.6 (12)	55.5 (3)	93.1 (6)	6014.8 (34)		1875.1 (41)	4281.2 (43)	91.2 (2)	1800.9 (19)	4100.6 (63)	2624.7 (22)
ostracoda				9.0 (<1)	9.2 (<1)		15.7 (<1)			37.3 (<1)	3.0 (<1)			
copepoda	19479.0 (96)	4985.0 (95)	910.6 (48)	3806.7 (67)	1228.6 (57)	914.3 (59)	7349.7 (42)		1580.9 (34)	4728.5 (48)	2156.0 (65)	6468.4 (67)	1797.8 (28)	8202.6 (69)
cirripedia (barnacle) nauplii	481.9 (2)	171.0 (3)	8.5 (<1)	26.9 (<1)	18.5 (<1)	21.2 (1)	455.4 (3)		53.5 (1)	31.1 (<1)	15.2 (<1)	12.5 (<1)	38.2 (<1)	15.2 (<1)
decapoda	33.3 (<1)	33.4 (<1)	507.9 (27)	555.4 (9)	672.1 (31)	410.6 (26)	3266.5 (19)		968.7 (21)	385.2 (4)	857.4 (26)	891.2 (9)	474.4 (7)	672.4 (5)
others	4.2 (<1)		2.9 (<1)	44.9 (<1)	16.1 (<1)	4.2 (<1)	31.4 (<1)		11.9 (<1)	37.2 (<1)		6.2 (<1)	3.8 (<1)	10.1 (<1)
Chaetognatha		8.4 (<1)	28.4 (2)	134.3 (2)	41.6 (2)	29.6 (2)	47.1 (<1)		14.8 (<1)	43.5 (<1)	60.8 (1)	105.9 (1)	7.6 (<1)	40.5 (<1)
Chordata														
urochordata	58.2 (<1)	16.7 (<1)	22.7 (1)	304.5 (5)	4.6 (<1)	8.5 (<1)	15.7 (<1)		3.0 (<1)	124.3 (1)	27.4 (<1)	193.2 (2)	3.8 (<1)	65.7 (<1)
fish	45.7 (<1)	29.2 (<1)					15.7 (<1)		14.9 (<1)	6.2 (<1)		6.2 (<1)		

Table 2.2A-14
cont'd
DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
14 SEPTEMBER 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Eggs	8.3 (<1)		32.6 (2)	53.8 (<1)	9.3 (<1)	12.7 (1)	94.2 (<1)		11.9 (<1)	37.3 (<1)	27.4 (<1)	43.6 (<1)	11.5 (<1)	5.1 (<1)
Miscellaneous			+[d]		2.3 (<1)		+[d]		+[d]	+[d]			+[d]	
TOTAL	20206.3	5260.4	1878.1	5696.8	2154.7	1536.6	17447.1		4579.2	9854.6	3290.1	9652.8	6460.6	11853.8

[a] Values expressed are undamaged zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table H-157.

[c] Ø = oblique; S = surface; B = bottom.

[d] Echinoderm larvae noted as present; however, due to fragility of specimens, a quantitative analysis is not available.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
15 OCTOBER 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Protozoa		1.8 (<1)					1.5 (<1)					2.7 (<1)		3.3 (<1)
Coelenterata		1.8 (<1)		0.9 (1)	4.0 (<1)	1.2 (<1)	10.5 (<1)			1.5 (<1)				
Mollusca	82.0 (1)	100.8 (5)	66.7 (7)	4.5 (5)	359.5 (7)	45.5 (3)	12.0 (<1)	104.8 (7)	58.7 (5)	12.2 (1)	32.2 (2)	27.4 (2)	63.0 (5)	101.0 (2)
Polychaeta	22.0 (<1)	14.4 (1)	68.2 (8)		118.6 (3)		11.0 (<1)		17.4 (1)	1.5 (1)	7.6 (1)		4.6 (<1)	
Crustacea nauplii			3.0 (<1)	2.7 (3)	19.8 (<1)				17.4 (1)		5.7 (<1)		7.0 (1)	
cladocera	62.0 (1)	36.0 (2)	7.6 (1)		162.0 (4)	9.7 (1)	318.1 (11)		21.4 (2)	3.1 (<1)	15.2 (1)		123.7 (9)	3.3 (<1)
ostracoda		1.8 (<1)									1.9 (1)		2.3 (<1)	
copepoda	624.4 (11)	529.5 (24)	416.8 (47)	86.0 (88)	3018.9 (73)	1679.8 (94)	1641.3 (55)	1327.4 (84)	738.1 (61)	699.4 (62)	710.9 (52)	1146.5 (89)	641.6 (46)	4371.0 (90)
cirripedia (barnacle) nauplii	4729.2 (85)	1415.6 (66)	80.3 (9)		252.9 (6)	6.1 (<1)	394.6 (13)	15.0 (1)	123.0 (10)	32.3 (3)	301.4 (22)	8.2 (1)	333.6 (24)	29.3 (1)
decapoda	40.0 (<1)	25.2 (1)	221.2 (25)		102.8 (2)	13.3 (1)	501.1 (17)	49.9 (3)	28.0 (2)	316.4 (28)	98.6 (7)	46.5 (4)	179.7 (13)	325.8 (7)
others	14.0 (<1)	14.4 (1)		0.9 (1)	15.9 (<1)	1.8 (<1)		25.0 (2)	2.6 (<1)		1.9 (<1)		2.3 (<1)	3.3 (<1)
Chaetognatha	10.0 (<1)	12.6 (1)	6.0 (1)	0.9 (1)	55.3 (1)	15.2 (1)	30.0 (1)	24.9 (2)	4.0 (<1)	23.1 (2)	7.6 (1)	41.0 (3)	4.7 (<1)	32.7 (1)
Chordata urochordata	2.0 (<1)	5.4 (<1)	21.2 (2)	1.8 (2)	27.7 (1)	13.4 (1)	42.0 (1)	29.9 (2)	169.8 (14)	43.0 (4)	170.6 (13)	13.7 (1)	14.0 (1)	13.0 (<1)
fish														

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
15 OCTOBER 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Eggs						1.2 (<1)			18.7 (2)	1.5 (<1)	1.9 (<1)		11.7 (1)	
Miscellaneous					11.9 (<1)	0.6 (<1)	+[d]		8.0 (1) / +[d]	+[d]	7.6 (<1) / +[d]		9.3 (1) / +[d]	
TOTAL	5585.6	2159.3	891.0	97.7	4149.3	1787.8	2962.1	1576.9	1207.1	1134.0	1363.1	1286.0	1397.5	4382.7

[a] Values expressed are undamaged zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table H-158.

[c] Ø = oblique; S = surface; B = bottom.

[d] Echinoderm larvae noted as present; however, due to fragility of specimens, a quantitative analysis is not available.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
10 NOVEMBER 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	∅	∅	S	B	S	B	S	B	S	B	S	B	S	B
Protozoa														
Coelenterata										1.5 (<1)				
Mollusca	4.3 (1)	173.6 (4)	170.7 (13)	253.8 (18)	196.4 (7)	24.4 (2)	7.5 (1)	14.2 (2)	12.1 (6)	61.9 (8)	34.7 (5)	195.0 (9)	5.5 (2)	997.3 (8)
Polychaeta	15.0 (2)		13.6 (1)	12.9 (1)	137.0 (5)	11.1 (1)	17.5 (2)	17.1 (2)	6.1 (3)	1.5 (<1)	26.7 (4)	16.0 (1)	1.9 (1)	124.7 (1)
Crustacea nauplii		9.1 (<1)	10.2 (1)		36.5 (1)	1.1 (<1)	2.5 (<1)	9.3 (1)			10.7 (2)	6.4 (<1)		45.3 (<1)
cladocera					9.1 (<1)		12.5 (1)		4.8 (2)	3.0 (<1)	5.3 (1)		25.1 (11)	
ostracoda				1.3 (<1)		1.1 (<1)								
copepoda	278.2 (41)	484.1 (12)	1024.2 (77)	661.9 (48)	917.7 (33)	556.6 (48)	769.5 (75)	459.0 (50)	104.6 (51)	473.1 (64)	496.4 (76)	863.0 (39)	154.5 (67)	5904.7 (47)
cirripedia (barnacle) nauplii	378.7 (55)	3292.8 (83)	102.4 (8)	376.1 (27)	1451.9 (52)	532.2 (46)	183.0 (18)	363.5 (40)	62.0 (30)	140.6 (19)	32.0 (5)	1070.7 (48)	18.6 (8)	5349.3 (42)
decapoda	1.8 (<1)		3.4 (<1)	9.1 (1)	4.6 (<1)	5.5 (<1)	7.5 (1)	11.4 (1)		21.1 (3)		9.6 (<1)	2.8 (1)	79.3 (1)
others	0.8 (<1)	13.7 (<1)		2.6 (<1)				0.7 (<1)				3.2 (<1)		22.7 (<1)
Chaetognatha	2.9 (<1)	4.6 (<1)	3.4 (<1)	20.7 (2)	9.1 (<1)	4.4 (<1)	5.0 (<1)	3.6 (<1)		10.5 (1)		16.0 (1)		11.3 (<1)
Chordata urochordata	0.4 (<1)	9.1 (<1)	10.2 (1)	29.6 (2)	32.0 (1)	22.2 (2)	10.0 (1)	16.4 (2)	6.1 (3)	7.6 (1)	34.7 (5)	35.2 (2)	4.6 (2)	
fish	0.7 (<1)				4.6 (<1)	2.2 (<1)					2.7 (<1)			

Table 2.2A-14
cont'd
DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
10 NOVEMBER 1976

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
Eggs				5.2 (<1)		2.2 (<1)	5.0 (<1)	12.1 (1)	7.3 (4)	18.2 (2)	10.7 (2)	22.4 (1)	15.8 (7)	56.7 (<1)
Miscellaneous	3.9 (1)/+[d]		+[d]	+[d]	4.6 (<1)/+[d]	1.1 (<1)/+[d]		2.8 (<1)/+[d]	1.2 (1)/+[d]	1.5 (<1)/+[d]		3.2 (<1)/+[d]	1.9 (1)/+[d]	+[d]
TOTAL	686.7	3987.0	1338.1	1373.2	2803.5	1164.1	1020.0	910.1	204.[illegible]	740.5	653.9	2240.7	230.[illegible]	12591.3

[a] Values expressed are undamaged zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table H-159.

[c] Ø = oblique; S = surface; B = bottom.

[d] Echinoderm larvae noted as present; however, due to fragility of specimens, a quantitative analysis is not available.

Table 2.2A-14
cont'd

TOTAL AND MEAN ZOOPLANKTERS PER CUBIC METER[a]
ST. LUCIE PLANT
MARCH-NOVEMBER 1976

	Station and depth[b]																			
	11	12	0			1			2			3			4			5		
Date	Ø	Ø	S	B	x̄	S	B	x̄	S	B	x̄	S	B	x̄	S	B	x̄	S	B	x̄
26 MAR	1534.7	480.5	31.0	559.3	295.2	2237.6	138.5	1188.1	1510.6	282.2	896.4	1584.5	1633.4	1609.0	1470.2	2400.9	1935.6	3529.0	6488.3	5008.7
21 APR	265.6	700.9	403.5	3233.4	1818.5	616.9	2518.2	1567.6	321.9	312.4	317.2	1150.1	5479.6	3314.9	321.4	3287.9	1804.7	306.9	1025.6	666.3
12 MAY	204.7	430.8	54.9	787.3	421.1	231.2	257.6	244.4	780.9	200.3	490.6	654.9	1339.2	997.1	928.7	241.3	584.3	98.9	239.1	169.0
8 JUN	388.1	624.6	246.7	1775.9	1011.3	430.5	1330.3	880.4	351.1	3914.5	2132.8	694.1	3342.8	2018.5	482.9	1337.5	910.2	171.7	2320.4	1246.1
14 JUL	156.7	136.5	3083.9	2384.6	2734.3	8007.8	6766.9	7387.4	344.8	8210.4	4277.6	291.1	2940.7	1615.9	312.6	5294.6	2803.5	832.3	734.8	783.6
11 AUG	1971.3	937.8	2535.4	285.0	1410.2	5154.8	408.7	2781.8	3781.1	8092.9	5937.0	3943.5	8100.2	6021.9	3785.2	11540.8	7663.0	3100.7	1157.9	2129.3
14 SEP	20206.3	5260.4	1878.1	5696.8	3787.5	2154.7	1536.6	1845.7	17447.1	NA[c]	NA[c]	4579.2	9854.6	7216.9	3290.1	9652.8	6471.5	6460.6	11853.8	9157.2
15 OCT	5585.6	2159.3	891.0	97.7	494.4	4149.3	1787.8	2968.6	2962.1	1576.9	2269.5	1207.1	1134.0	1170.6	1363.1	1286.0	1324.6	1397.5	4882.7	3140.1
10 NOV	686.7	3987.0	1338.1	1373.2	1355.7	2803.5	1164.1	1983.8	1020.0	910.1	965.1	204.2	740.5	472.4	653.9	2240.7	1447.3	230.7	12591.3	6411.0
MEAN	3444.4	1635.3	1162.5	1799.2	1480.9	2865.1	1767.6	2316.4	3168.8	2937.5	2160.7	1589.9	3840.6	2715.2	1400.9	4142.5	2711.7	1792.0	4588.2	3190.1

[a] S, B and Ø values represent the mean of three subsamples.
[b] Ø = oblique; S = surface; B = bottom
[c] Data not available.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
DECEMBER 1977

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[d]														
Protozoa	0.8 (<1)						1.5 (<1)				4.7 (<1)			
Coelenterata			7.1 (<1)		13.4 (1)				8.9 (1)		21.0 (2)	1.6 (1)	1.6 (<1)	2.1 (<1)
Mollusca	4.0 (1)	5.8 (2)	31.0 (2)	6.9 (5)	33.2 (2)		8.9 (1)	19.6 (4)	13.3 (1)	0.4 (1)	21.0 (2)	4.8 (2)	20.4 (2)	2.2 (<1)
Polychaeta	0.8 (<1)	4.7 (1)	2.4 (<1)		2.1 (<1)		3.0 (<1)	2.0 (<1)	4.4 (<1)	0.4 (1)		1.6 (1)	12.6 (1)	2.2 (<1)
Crustacea nauplii			4.7 (<1)		2.1 (<1)		1.5 (<1)	3.9 (1)	1.5 (<1)	0.8 (2)		3.2 (1)	7.8 (1)	2.3 (1)
cladocera														
ostracoda				3.0 (2)	10.4 (1)		5.9 (1)	9.8 (2)		0.8 (2)		40.2 (14)		7.8 (2)
copepoda	140.8 (38)	93.3 (29)	738.3 (48)	75.0 (60)	1195.3 (64)	9.3 (39)	371.6 (49)	211.0 (38)	1016.4 (71)	14.6 (42)	677.9 (53)	167.4 (57)	83.2 (7)	130.8 (29)
cirripedia (barnacle) nauplii	171.2 (46)	129.6 (40)	19.1 (1)		12.5 (1)		2.9 (<1)	3.9 (1)		0.4 (1)	2.3 (<1)	1.6 (1)	37.7 (3)	7.8 (2)
decapoda	7.2 (2)	5.8 (2)	447.6 (29)	16.5 (13)	215.5 (12)	2.3 (10)	168.8 (22)	160.3 (29)	23.6 (2)	2.4 (7)	62.9 (5)	8.0 (3)	718.9 (62)	109.6 (24)
others		31.6 (10)			4.2 (<1)	0.7 (3)			1.5 (<1)				1.6 (<1)	1.1 (<1)
Chaetognatha			11.9 (1)	6.0 (5)	12.5 (1)	1.1 (5)	10.4 (1)	5.9 (1)	11.7 (1)	0.8 (2)	37.3 (3)	3.2 (1)	6.3 (1)	7.9 (2)
Echinodermata	0.8 (<1)		4.7 (<1)		6.1 (<1)	0.4 (2)	1.5 (<1)	2.0 (<1)	1.5 (<1)	0.4 (1)	4.7 (<1)	1.6 (1)	4.7 (<1)	1.4 (1)
Chordata urochordata		2.3 (1)	28.1 (2)	7.5 (6)	49.0 (3)	2.2 (9)	16.3 (2)	15.7 (3)	103.1 (7)	3.1 (9)	260.9 (21)	24.1 (8)	64.3 (6)	57.0 (13)
fish			2.4 (<1)						1.5 (<1)		4.6 (<1)			
Eggs	37.6 (10)	46.7 (14)	169.1 (11)	9.0 (7)	220.0 (12)	0.7 (3)	109.6 (14)	39.0 (7)	162.0 (11)	3.5 (10)	81.5 (6)	3.2 (1)	171.1 (15)	6.7 (1)
Miscellaneous					6.1 (<1)			4.0 (1)	13.3 (1)	0.4 (1)	2.3 (<1)		1.6 (<1)	1.1 (<1)
SUBTOTAL UNDAMAGED	363.2	319.8	1476.6	126.0	1797.5	16.7	701.9	477.1	1362.7	28.0	1181.1	260.5	1131.8	342.1
SUBTOTAL DAMAGED[e]	8.8 (2)	8.2 (3)	64.3 (4)	4.5 (3)	68.5 (4)	7.1 (30)	56.3 (7)	82.2 (15)	64.8 (5)	7.0 (20)	86.2 (7)	33.8 (11)	26.7 (2)	107.3 (24)
SUBTOTAL UNDAMAGED + DAMAGED	372.0	328.0	1540.9	130.5	1866.0	23.8	758.2	559.3	1427.5	35.0	1267.3	294.3	1158.5	449.4

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table M-29.

[c] Ø - oblique; S = surface; B - bottom.

[d] Percentage is based on total undamaged.

[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

RESULTS OF ZOOPLANKTON BIOMASS ANALYSIS[a]
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

	Station and depth[b]										
	11	12	0			1			2		
	Ø	Ø	S	B	x̄	S	B	x̄	S	B	x̄
25 JAN	1.28	4.05	6.00	1.58	3.79	15.83	1.50	8.67	14.24	3.49	8.87
15 FEB	4.17	13.29	10.97	6.13	8.55	32.08	16.26	24.17	1.87	22.54	12.21
11 MAR	2.62	9.22	21.07	19.45	20.26	7.66	7.66	7.66	26.92	374.26	200.59
19-20 APR[c]	2.02	6.07	16.17	16.03	16.10	15.79	13.87	14.83	15.34	27.06	21.20
10 MAY	1.72	5.46	3.51	27.27	15.39	42.81	17.69	30.25	4.33	35.38	19.86
14 JUN	1.59	4.20	7.67	16.99	12.33	16.85	58.70	37.78	2.12	37.94	20.03
12 JUL	4.28	7.93	48.04	41.12	44.58	50.84	89.99	70.42	60.80	46.95	53.88
23 AUG	2.13	5.18	16.51	23.95	20.23	28.26	20.42	24.34	14.89	NA[d]	NA[d]
13 SEP	4.03	3.72	17.91	22.72	20.31	19.36	26.78	23.07	27.45	26.53	26.99
11-19 OCT[e]	6.62	12.88	3.60	0.85	2.23	10.84	38.22	24.50	7.92	2.44	5.18
2 NOV	2.22	4.21	5.24	5.12	5.18	36.12	40.41	38.27	3.38	11.39	7.39
1 DEC	0.84	1.22	5.63	11.49	8.56	11.34	14.43	12.89	31.66	16.07	23.87
MEAN	2.79	6.45	13.53	16.06	14.79	23.98	28.83	26.40	17.58	54.91	36.37

	Station and depth[b]								
	3			4			5		
	S	B	x̄	S	B	x̄	S	B	x̄
25 JAN	4.15	9.86	7.01	13.40	2.55	7.98	5.95	3.83	4.89
15 FEB	23.78	38.49	31.14	15.25	1.72	8.49	12.93	41.25	27.09
11 MAR	48.35	19.73	34.04	19.22	11.82	15.52	86.33	18.76	52.55
19-20 APR[c]	19.12	22.95	21.04	13.09	14.48	13.79	16.18	13.44	14.81
10 MAY	3.42	17.37	10.40	7.00	38.29	22.65	4.44	24.40	14.42
14 JUN	12.86	27.44	20.15	2.96	24.69	13.83	25.33	70.79	48.06
12 JUL	30.80	105.70	68.25	NA[d]	46.39	NA[d]	223.47	16.58	120.03
23 AUG	29.81	NA[d]	NA[d]	8.79	NA[d]	NA[d]	29.24	19.42	24.33
13 SEP	19.20	24.49	21.85	15.24	28.22	21.73	24.26	51.63	37.95
11-19 OCT[e]	2.41	1.47	1.94	2.91	4.08	3.50	3.70	6.19	5.00
2 NOV	8.37	11.86	10.12	11.21	10.09	10.65	3.86	14.13	9.00
1 DEC	10.37	10.98	10.68	17.20	21.38	19.29	7.36	85.87	46.62
MEAN	17.72	26.39	21.51	11.48	18.52	13.74	36.92	30.52	33.73

[a]Ash-free dry weight expressed in mg/m^3.

[b]Ø = Oblique; S = Surface; B = Bottom.

[c]Stations 11 and 12 collected 20 APR; all other stations collected 19 APR.

[d]Data not available.

[e]Stations 11 and 12 collected 11 OCT; all other stations collected 19 OCT.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
JANUARY 1977

Taxon	11	12	0		1		2		3		4		5	
	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[d]														
Protozoa						2.0 (<1)								
Coelenterata														
Mollusca	15.4 (15)	28.1 (14)	129.2 (13)	52.9 (8)	59.0 (6)	94.3 (8)	125.9 (9)	155.1 (6)	39.0 (6)	86.3 (3)	30.9 (2)	112.9 (6)	75.2 (3)	358.4 (15)
Polychaeta	3.8 (4)	13.1 (7)	2.0 (<1)	5.5 (1)	2.0 (<1)	8.0 (1)	5.8 (<1)	2.6 (<1)	9.9 (1)	15.6 (1)	9.3 (1)	5.7 (<1)		10.1 (<1)
Crustacea														
nauplii	0.4 (<1)		150.7 (15)	16.4 (3)	3.1 (<1)	20.1 (2)	9.7 (1)	2.6 (<1)	16.5 (1)		15.4 (1)	7.6 (<1)	15.8 (1)	7.6 (<1)
cladocera													4.0 (<1)	
ostracoda		1.9 (1)		5.5 (1)	2.0 (<1)		15.5 (1)	31.6 (1)	3.3 (<1)	15.7 (1)	3.1 (<1)	26.8 (2)	7.9 (<1)	12.6 (1)
copepoda	59.4 (56)	91.8 (47)	651.9 (66)	505.4 (78)	611.0 (61)	865.5 (77)	1022.5 (75)	1935.7 (77)	1083.7 (75)	2613.9 (75)	1310.0 (82)	1290.7 (74)	1757.3 (77)	1751.7 (73)
cirripedia (barnacle) nauplii	6.0 (6)	16.9 (9)	5.9 (1)	7.3 (1)	26.4 (3)	20.1 (2)	11.6 (1)	13.2 (1)	23.1 (2)	70.6 (2)	12.4 (1)	5.7 (<1)	11.9 (1)	7.6 (<1)
decapoda	0.4 (<1)	2.8 (1)	9.8 (1)	5.5 (1)	8.1 (1)	14.0 (1)	65.7 (5)	115.7 (5)	56.0 (4)	227.5 (7)	18.5 (1)	172.1 (10)	87.3 (4)	143.7 (6)
others	3.4 (3)	19.6 (10)			16.1 (2)	10.0 (1)	1.9 (<1)	10.5 (<1)		15.6 (1)				2.5 (<1)
Chaetognatha			2.0 (<1)		2.0 (<1)	8.0 (1)	1.9 (<1)	13.2 (1)	16.5 (1)	31.4 (1)	24.8 (2)	3.8 (<1)	47.5 (2)	7.5 (<1)
Echinodermata				1.8 (<1)	8.1 (1)	4.0 (<1)		2.6 (<1)			24.7 (2)	3.8 (<1)	4.0 (<1)	
Chordata														
urochordata				5.5 (1)	20.3 (2)	50.2 (4)	42.6 (3)	94.7 (4)	75.8 (5)	196.2 (6)	49.4 (3)	28.7 (2)	122.7 (5)	70.7 (3)
fish					2.0 (<1)	2.0 (<1)	5.8 (<1)				9.3 (1)	7.6 (<1)	4.0 (<1)	
Eggs	15.8 (15)	23.4 (12)	39.7 (4)	45.6 (7)	40.7 (4)	34.1 (3)	46.5 (3)	123.6 (5)	72.5 (5)	196.2 (6)	86.5 (5)	88.1 (5)	138.5 (6)	22.7 (1)
Miscellaneous	0.9 (1)						1.9 (<1)		3.3 (<1)				11.9 (1)	
SUBTOTAL UNDAMAGED	105.5	197.5	992.7	651.4	1006.0	1122.3	1357.3	2501.1	1449.6	3469.0	1594.3	1753.0	2288.0	2395.1
SUBTOTAL DAMAGED[e]	2.2 (2)	9.3 (5)	50.9 (5)	29.2 (4)	38.5 (4)	38.1 (3)	36.7 (3)	73.7 (3)	62.6 (4)	94.1 (3)	43.3 (3)	61.2 (3)	110.9 (5)	108.5 (4)
TOTAL UNDAMAGED + DAMAGED	107.7	206.8	1043.6	680.6	1044.5	1160.4	1394.0	2574.8	1512.2	3563.1	1637.6	1814.2	2398.9	2503.6

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.
[b] For detailed taxonomic listing, see Table N-18.
[c] Ø = oblique; S = surface; B = bottom.
[d] Percentage is based on total undamaged.
[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
FEBRUARY 1977

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[d]														
Protozoa														
Coelenterata				9.1 (1)			2.4 (1)	3.2 (1)	6.7 (1)	11.1 (1)	2.3 (1)	31.6 (1)	12.1 (1)	8.6 (1)
Mollusca	45.5 (7)	47.4 (10)	5.1 (1)	1.6 (1)	2.7 (1)	44.2 (2)	12.1 (1)	9.4 (1)	6.8 (1)	19.[illegible] (1)	23.3 (1)	15.8 (1)	38.2 (1)	32.1 (1)
Polychaeta	1.0 (1)						2.4 (1)		1.7 (1)		2.3 (1)			
Crustacea														
nauplii	1.0 (1)		17.8 (1)	6.5 (1)	2.1 (1)	2.2 (1)	2.3 (1)	1.6 (1)	1.7 (1)				2.0 (1)	
Cladocera														
ostracoda	1.0 (1)			1.1 (1)	6.5 (1)	6.5 (1)		32.8 (2)	1.7 (1)	921.0 (14)		412.1 (5)		23.7 (1)
copepoda	367.0 (65)	177.4 (34)	1501.[illegible] (87)	266.9 (84)	4113.5 (91)	1676.9 (86)	2266.7 (88)	1505.5 (88)	2810.8 (90)	5207.5 (78)	2605.2 (88)	8020.2 (90)	4261.3 (94)	4248.5 (97)
Cirripedia (barnacle) nauplii	9.1 (2)	21.7 (5)			25.9 (1)									2.2 (1)
decapoda	5.0 (1)		5.1 (1)	24.5 (8)	9.9 (1)	4.1 (1)	[illegible] (1)	51.8 (3)	21.9 (1)	319.0 (5)	11.6 (1)	202.9 (2)	4.0 (1)	71.1 (1)
others	31.4 (6)	42.8 (10)		1.4 (1)	6.[illegible] (1)	56.1 (3)		14.1 (1)		17.0 (1)		12.7 (1)	10.0 (1)	24.0 (1)
Chaetognatha	9.1 (2)		15.2 (1)	2.2 (1)	5.9 (1)	6.6 (1)	31.5 (1)	28.2 (2)	92.0 (3)	82.0 (1)	37.1 (1)	101.3 (1)	66.3 (2)	51.6 (1)
Echinodermata														
Chordata														
urochordata			5.1 (1)	0.8 (1)	27.8 (1)	26.0 (1)	12.1 (1)	9.4 (1)	23.5 (1)	8.5 (1)	20.9 (1)	9.5 (1)		21.5 (1)
fish	1.0 (1)		2.5 (1)	0.7 (1)	55.3 (1)	2.2 (1)	2.4 (1)	3.1 (1)		110.3 (2)				
Eggs	103.4 (18)	127.8 (22)	175.2 (10)	19.4 (6)	154.2 (3)	132.4 (7)	235.1 (9)	129.6 (8)	118.8 (4)		253.3 (9)	158.5 (2)	148.7 (3)	154.8 (3)
Miscellaneous			2.5 (1)								2.3 (1)			
SUBTOTAL UNDAMAGED	567.5	459.1	1729.7	319.0	4469.6	1893.9	2579.2	1691.7	3118.6	6698.2	2958.3	8964.6	4542.6	5142.3
SUBTOTAL DAMAGED[e]	16.2 (3)	23.7 (5)	38.0 (2)	7.6 (2)	52.5 (1)	71.6 (4)	50.9 (2)	46.9 (3)	77.0 (2)	146.7 (2)	67.4 (2)	149.1 (2)	56.3 (1)	187.2 (4)
TOTAL UNDAMAGED + DAMAGED	583.7	482.8	1767.7	326.6	4522.1	1965.5	2630.1	1738.6	3195.6	6844.9	3025.7	9113.7	4598.9	5329.5

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.
[b] For detailed taxonomic listing, see Table N-19.
[c] Ø = oblique, S = surface, B = bottom.
[d] Percentage is based on total undamaged.
[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
MARCH 1977

Taxon	Station and depth[c] 11 Ø	12 Ø	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
UNDAMAGED[d]														
Protozoa	2.4 (<1)													
Coelenterata	0.8 (<1)	20.9 (6)	5.0 (<1)	14.5 (<1)	5.1 (<1)		2.4 (<1)	54.7 (<1)	5.1 (<1)	17.7 (1)		12.4 (<1)	18.4 (<1)	18.9 (1)
Mollusca	38.0 (6)	13.9 (4)	15.1 (1)	63.9 (1)	50.5 (1)	93.6 (1)	24.2 (1)	191.5 (1)	119.8 (3)	88.4 (2)	22.2 (1)	68.2 (2)	25.8 (<1)	66.2 (2)
Polychaeta	86.6 (13)	20.9 (6)	10.1 (<1)	110.3 (2)	85.9 (1)	146.4 (2)	4.8 (<1)		5.0 (<1)	11.7 (<1)	3.7 (<1)		3.7 (<1)	15.8 (<1)
Crustacea														
nauplii	3.2 (1)	20.9 (6)	2.5 (<1)			54.6 (1)	2.4 (<1)		12.7 (<1)	2.9 (<1)	3.7 (<1)			6.3 (<1)
cladocera											3.7 (<1)			
ostracoda		7.0 (2)	7.6 (<1)	145.2 (3)	40.2 (1)	144.2 (2)		164.1 (1)		11.8 (<1)			11.0 (<1)	517.2 (13)
copepoda	305.7 (45)	118.3 (33)	3078.5 (93)	3745.3 (80)	7091.0 (84)	7450.2 (82)	3535.7 (93)	23468.8 (81)	4308.9 (90)	3436.4 (88)	4145.0 (92)	3851.8 (88)	5599.6 (91)	2765.7 (70)
cirripedia (barnacle) nauplii	75.2 (11)	41.7 (12)	35.3 (1)	226.4 (5)	393.9 (5)	479.5 (5)	31.5 (1)	875.3 (3)		8.8 (<1)		24.8 (1)	36.8 (1)	315.3 (8)
decapoda	1.6 (<1)	14.0 (4)		31.9 (1)	106.4 (1)	140.4 (2)	2.4 (<1)	574.6 (2)	5.0 (<1)	29.4 (1)		9.3 (<1)	36.8 (1)	53.8 (1)
others	17.8 (3)	48.8 (14)	7.6 (<1)	113.2 (2)	303.1 (4)	272.9 (3)	7.3 (<1)	574.4 (2)	5.1 (<1)	44.1 (1)		49.6 (1)	47.9 (1)	6.3 (<1)
Chaetognatha			10.2 (<1)	11.6 (<1)	50.7 (1)	23.4 (<1)	12.1 (<1)	13.7 (1)	50.8 (1)	29.4 (1)	25.9 (1)	12.4 (<1)	55.2 (1)	6.4 (<1)
Echinodermata	4.9 (1)					3.9 (<1)								9.5 (<1)
Chordata														
urochordata	86.5 (13)	20.9 (6)	25.3 (1)	148.1 (3)	85.9 (1)	78.0 (1)	9.7 (1)	1367.7 (5)	147.9 (3)	59.0 (2)	44.3 (1)	142.7 (3)	11.0 (<1)	53.6 (1)
fish	0.8 (<1)	27.8 (8)	15.1 (1)	2.9 (<1)	75.8 (1)	23.4 (<1)	14.5 (<1)	46.5 (2)	10.2 (<1)	5.8 (<1)	59.1 (1)	65.1 (2)	132.4 (2)	
Eggs	57.4 (8)		108.5 (3)	92.9 (2)	156.6 (2)	159.8 (2)	15.5 (4)	1039.4 (4)	119.8 (3)	138.6 (4)	195.6 (4)	130.2 (3)	176.6 (3)	107.2 (3)
Miscellaneous		7.0 (2)	2.5 (<1)						5.1 (<1)	2.9 (<1)		6.2 (<1)	14.7 (<1)	
SUBTOTAL UNDAMAGED	680.9	362.1	3323.3	4706.2	8445.3	9064.3	3802.0	28912.5	4795.4	3886.9	4503.2	4372.7	6169.9	3942.2
SUBTOTAL DAMAGED[e]	23.5 (3)	13.9 (4)	80.8 (2)	101.6 (2)	520.3 (6)	187.1 (2)	82.4 (2)	1340.5 (4)	140.2 (3)	129.5 (3)	92.3 (2)	130.2 (3)	209.7 (3)	94.7 (2)
TOTAL UNDAMAGED + DAMAGED	704.4	376.0	3404.1	4807.8	8965.6	9251.4	3884.4	30253.0	4935.6	4016.4	4595.5	4502.9	6379.6	4036.9

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table N-20.

[c] Ø = oblique; S = surface; B = bottom.

[d] Percentage is based on total undamaged.

[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
APRIL 1977[c]

	Station and depth[d]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[e]														
Protozoa	0.8 (<1)	11.6 (3)			7.5 (<1)						2.0 (<1)			
Coelenterata	0.8 (<1)		4.1 (<1)		22.5 (1)	3.4 (<1)	2.7 (<1)	9.1 (1)	4.9 (<1)	7.9 (<1)	6.1 (<1)		3.7 (<1)	12.1 (1)
Mollusca	28.4 (12)	23.7 (7)	37.0 (2)	37.7 (2)	170.2 (3)	37.2 (3)	54.3 (1)	52.3 (3)	98.0 (3)	283.8 (5)	38.8 (3)	71.4 (4)	92.2 (3)	39.5 (3)
Polychaeta	1.7 (1)		12.3 (1)	2.2 (<1)	45.1 (1)		16.3 (<1)	2.3 (<1)	14.7 (<1)		16.3 (1)		11.1 (<1)	3.0 (<1)
Crustacea														
nauplii														
cladocera	0.8 (<1)			2.2 (<1)								4.9 (<1)		9.1 (1)
ostracoda								2.3 (<1)	4.9 (<1)					
copepoda	103.4 (44)	89.6 (25)	1283.5 (74)	1757.2 (77)	1796.2 (46)	749.7 (54)	3505.1 (84)	1248.8 (73)	2821.5 (77)	4786.0 (78)	1100.6 (73)	1405.0 (74)	2232.2 (75)	851.6 (65)
cirripedia (barnacle) nauplii	6.7 (3)	96.2 (27)	4.1 (<1)	8.9 (<1)	15.0 (<1)	6.8 (1)		2.3 (<1)		7.9 (<1)	6.1 (<1)	9.9 (1)	29.5 (1)	18.2 (1)
decapoda	16.5 (7)	18.4 (5)	36.9 (2)	89.0 (4)	195.2 (5)	185.8 (13)	97.6 (2)	111.3 (6)	83.3 (2)	276.2 (5)	77.3 (5)	170.0 (9)	250.7 (9)	145.9 (11)
others	5.8 (2)	15.0 (4)	4.1 (<1)	6.6 (<1)	37.5 (1)	6.8 (1)		6.9 (<1)	14.7 (<1)		2.0 (<1)		14.8 (1)	6.0 (1)
Chaetognatha			20.5 (1)	11.2 (1)			70.5 (2)	20.4 (1)	117.6 (3)	157.7 (3)	8.1 (1)	17.2 (1)	33.2 (1)	12.1 (1)
Echinodermata	3.3 (1)						21.7 (1)							
Chordata														
urochordata	44.2 (19)	36.5 (10)	131.6 (8)	250.7 (11)	1337.8 (34)	300.5 (22)	181.7 (4)	93.2 (5)	362.5 (10)	370.7 (6)	116.2 (8)	120.6 (6)	92.2 (3)	118.6 (9)
fish	0.8 (<1)	1.7 (1)	57.6 (3)	11.1 (1)	67.6 (2)	10.1 (1)	2.7 (<1)	45.5 (3)		47.4 (1)	8.2 (1)		18.5 (1)	15.1 (1)
Eggs	24.2 (10)	59.7 (17)	135.8 (8)	95.4 (4)	285.6 (7)	91.2 (7)	241.4 (6)	127.4 (7)	137.2 (4)	212.9 (4)	136.6 (9)	93.5 (5)	184.2 (6)	85.2 (7)
Miscellaneous									4.9 (<1)					
SUBTOTAL UNDAMAGED	237.6	351.9	1727.5	2272.2	3930.2	1391.5	4194.0	1721.8	3664.2	6150.5	1518.3	1909.7	2962.3	1316.4
SUBTOTAL DAMAGED[f]	5.9 (2)	18.3 (5)	201.6 (11)	62.1 (3)	548.6 (12)	141.9 (9)	92.1 (2)	75.1 (4)	200.9 (5)	425.8 (7)	163.0 (10)	78.8 (4)	180.7 (6)	151.9 (10)
TOTAL UNDAMAGED + DAMAGED	243.5	370.2	1929.1	2334.3	4478.8	1533.4	4286.1	1796.9	3865.1	6576.3	1681.3	1988.5	3143.0	1468.3

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table N-21.

[c] Stations 11 and 12 collected 20 April, all other stations collected 19 April.

[d] Ø = oblique; S = surface; B = bottom.

[e] Percentage is based on total undamaged.

[f] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
MAY 1977

Taxon	Station and depth[c] 11 Ø	12 Ø	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
UNDAMAGED[d]														
Protozoa					1.8 (<1)									
Coelenterata														
Mollusca	29.4 (10)	10.5 (3)	7.6 (1)	45.0 (1)	[illegible]	19.6 (1)	7.7 (1)	12.2 (<1)	27.5 (4)	15.9 (2)	15.9 (1)	30.6 (1)	333.5 (9)	107.6 (4)
Polychaeta					1.8 (<1)		3.8 (<1)		5.0 (1)	3.7 (<1)	3.2 (<1)	10.2 (<1)		
Crustacea														
nauplii		4.2 (1)	7.6 (1)	4.5 (<1)	9.2 (1)	7.4 (<1)	15.3 (1)		15.0 (2)	9.5 (1)		5.1 (<1)	40.4 (1)	4.9 (<1)
cladocera														
ostracoda	2.7 (1)	4.2 (1)		27.0 (1)	14.7 (1)	4.9 (<1)	11.5 (1)	1845.5 (58)	12.5 (2)	267.0 (35)	73.2 (3)	1411.7 (27)	10.1 (<1)	44.0 (2)
copepoda	143.9 (46)	208.4 (60)	1012.9 (84)	2852.2 (85)	1011.6 (79)	1689.3 (85)	750.4 (45)	700.7 (22)	269.3 (42)	298.8 (39)	1191.0 (56)	2507.3 ([illegible])	2274.1 (64)	1368.8 (55)
cirripedia (barnacle) nauplii	24.0 (8)	23.1 (7)	5.1 (<1)	4.5 (<1)	7.4 (1)							20.4 (<1)	10.1 (<1)	
decapoda	10.6 (3)	8.4 (2)	17.7 (2)	229.8 (7)	71.7 (6)	79.0 (4)	145.3 (9)	138.5 (4)	49.9 (8)	38.3 (5)	143.4 (7)	346.7 (7)	363.8 (10)	547.8 (22)
others	2.6 (1)	16.8 (5)	2.5 (<1)	18.0 (1)	27.6 (2)	44.3 (2)	3.8 (<1)	12.3 (<1)		15.9 (2)		30.6 (1)	10.1 (<1)	9.8 (<1)
Chaetognatha	5.3 (2)	4.2 (1)	35.5 (3)	99.1 (3)	5.5 (<1)	29.5 (2)	287.2 (17)	346.1 (11)	69.8 (11)	57.7 (8)	375.8 (18)	667.7 (13)	50.5 (1)	190.7 (8)
Echinodermata														
Chordata														
urochordata	5.3 (2)	2.1 (<1)	2.5 (<1)	4.5 (<1)	9.2 (1)		76.5 (5)	24.4 (1)	25.0 (4)		22.3 (1)	15.3 (<1)	60.6 (2)	44.0 (2)
fish						2.5 (<1)	3.8 (<1)		7.5 (1)	3.2 (<1)				9.8 (<1)
Eggs	86.6 (28)	67.3 (19)	119.3 (10)	76.6 (2)	95.8 (8)	122.7 (6)	382.8 (23)	81.5 (3)	159.6 (25)	57.2 (8)	321.6 (15)	137.6 (3)	404.3 (11)	146.7 (6)
Miscellaneous														
SUBTOTAL UNDAMAGED	310.4	349.2	1210.7	3361.2	1285.7	1999.2	1688.1	3161.2	636.1	766.1	2146.4	5183.2	3557.5	2474.1
SUBTOTAL DAMAGED[e]	5.3 (2)	27.3 (7)	83.8 (7)	49.5 (2)	114.2 (8)	71.2 (3)	91.9 (5)	85.5 (3)	54.8 (8)	19.1 (2)	159.3 (7)	428.2 (9)	212.2 (6)	171.1 (7)
TOTAL UNDAMAGED + DAMAGED	315.7	376.5	1294.5	3410.7	1399.9	2070.4	1780.0	3246.7	690.9	785.2	2305.7	5611.4	3769.7	2645.2

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.
[b] For detailed taxonomic listing, see Table N-22.
[c] Ø - oblique; S - surface; B - bottom.
[d] Percentage is based on total undamaged.
[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
JUNE 1977

Taxon	Station and depth[c]													
	11	12	0		1		2		3		4		5	
	#	#	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[d]														
Protozoa	7.1 (1)	7.0 (2)	15.3 (2)	10.5 (1)	3.3 (1)	19.8 (1)	14.2 (4)		23.0 (8)	10.7 (1)	11.7 (3)		110.1 (15)	
Coelenterata			6.6 (1)	7.9 (1)							4.7 (1)	25.4 (2)		
Mollusca	249.6 (26)	16.4 (6)	155.0 (25)	303.0 (4)	93.3 (7)	207.7 (1)	35.6 (9)	11.3 (1)	26.9 (9)	21.4 (2)	29.0 (8)		234.0 (31)	61.0 (1)
Polychaeta							3.6 (1)	5.6 (1)		10.7 (1)		5.1 (<1)		
Crustacea														
nauplii				2.6 (1)	13.3 (1)		7.1 (2)							
cladocera														
ostracoda						9.9 (1)	3.6 (1)	11.2 (1)		117.6 (8)		5.1 (1)	32.1 (4)	152.5 (2)
copepoda	461.3 (48)	161.9 (56)	413.6 (67)	2455.3 (92)	1163.4 (80)	14894.1 (92)	170.5 (42)	870.7 (67)	84.5 (29)	1015.8 (71)	263.5 (72)	1293.5 (74)	211.1 (28)	6456.9 (82)
cirripedia (barnacle) nauplii	138.4 (14)	65.7 (23)					17.8 (4)				9.3 (3)		55.0 (7)	10.2 (1)
decapoda	67.4 (7)	25.2 (9)	3.3 (1)	60.7 (2)	96.6 (7)	[illegible]	53.5 (13)	224.9 (17)	72.0 (25)	122.8 (9)	18.7 (5)	258.8 (15)	41.4 (6)	406.7 (5)
others	7.0 (1)	7.0 (2)		2.6 (1)	3.3 (1)	49.5 (1)	3.6 (1)	11.3 (1)	7.7 (3)	16.0 (1)				10.2 (1)
Chaetognatha	9.4 (1)		6.6 (1)	23.7 (1)	13.3 (1)	49.5 (1)	60.5 (15)	140.4 (11)	26.8 (9)	85.5 (6)	11.7 (3)	121.7 (7)	4.6 (1)	162.7 (2)
Echinodermata							3.6 (1)							
Chordata														
urochordata	2.4 (1)	2.3 (1)	2.2 (1)	11.2 (1)	33.3 (2)	217.6 (1)	7.1 (2)	5.6 (1)	46.1 (16)	26.7 (2)	2.3 (1)	25.3 (2)	55.1 (7)	559.3 (7)
fish	3.5 (1)			5.3 (1)	3.3 (1)			11.3 (1)						
Eggs	21.3 (2)	2.1 (1)	15.3 (2)		23.3 (2)	19.8 (1)	21.3 (5)	11.3 (1)	7.7 (3)		11.7 (3)	5.1 (<1)	13.8 (2)	30.5 (1)
Miscellaneous											2.3 (1)			
SUBTOTAL UNDAMAGED	967.4	288.3	633.4	2664.8	1446.4	16100.0	402.0	1303.6	295.5	1427.2	363.9	1740.0	757.2	7850.0
SUBTOTAL DAMAGED[e]	24.8 (3)	63.2 (18)	21.9 (3)	118.7 (4)	110.0 (7)	168.2 (1)	277.0 (41)	382.0 (23)	49.9 (14)	37.4 (3)	58.3 (14)	96.4 (5)	91.8 (11)	325.4 (4)
TOTAL UNDAMAGED + DAMAGED	992.2	351.5	655.3	2783.5	1556.4	16340.	679.0	1685.6	345.4	1464.6	422.2	1836.4	849.0	8175.4

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.
[b] For detailed taxonomic listing, see Table N-23.
[c] # = oblique; S = surface; B = bottom.
[d] Percentage is based on total undamaged.
[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
JULY 1977

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[d]														
Protozoa	27.7 (3)	10.5 (1)	19.4 (<1)		24.0 (1)				20.6 (1)		53.2 (4)	30.0 (<1)		19.4 (1)
Coelenterata				30.2 (<1)				10.0 (<1)			5.9 (<1)	15.0 (<1)		20.1 (2)
Mollusca	20.8 (2)	10.5 (1)	71.0 (1)	50.3 (<1)	56.0 (2)	46.7 (1)	14.8 (2)	119.4 (1)	20.6 (1)	71.5 (1)	53.2 (4)	60.0 (1)	25.6 (<1)	72.8 (4)
Polychaeta				20.1 (<1)	8.0 (<1)			29.9 (<1)			5.9 (<1)			14.6 (1)
Crustacea nauplii										23.8 (<1)				4.9 (<1)
cladocera				20.1 (<1)				10.0 (<1)	61.7 (2)	23.9 (<1)	5.9 (<1)	15.0 (<1)		24.3 (1)
ostracoda						32.5 (<1)	3.7 (1)			71.5 (1)				4.9 (<1)
copepoda	431.3 (46)	723.0 (69)	5240.6 (92)	13209.1 (87)	2865.7 (82)	8508.8 (89)	452.9 (61)	7741.1 (84)	2653.7 (68)	5101.2 (78)	945.4 (67)	8226.3 (86)	14060.6 (94)	1460.4 (74)
cirripedia (barnacle) nauplii	188.6 (20)	170.3 (16)		30.2 (<1)	8.0 (<1)	32.5 (<1)		19.9 (<1)	61.7 (2)					24.3 (1)
decapoda	54.2 (6)	89.0 (8)	45.3 (1)	1217.4 (8)	160.0 (5)	584.5 (6)	14.8 (2)	924.9 (10)	61.7 (2)	762.6 (12)	47.2 (3)	479.6 (5)	153.6 (1)	19.5 (1)
others	1.4 (<1)	10.5 (1)	6.5 (<1)		8.0 (<1)	48.6 (1)				11.9 (<1)			25.6 (<1)	
Chaetognatha	8.4 (1)		38.8 (1)	70.5 (1)				19.9 (<1)		35.8 (1)	70.8 (5)	45.0 (1)	51.2 (<1)	14.6 (1)
Echinodermata														
Chordata urochordata	20.8 (2)		103.3 (2)	110.6 (1)	192.1 (6)	129.9 (1)	196.7 (26)	119.4 (1)	534.8 (14)	357.6 (6)	118.2 (8)	674.3 (7)	605.8 (4)	67.9 (3)
fish			12.9 (<1)	10.1 (<1)		16.2 (<1)		10.0 (<1)	20.6 (1)		11.8 (1)			
Eggs	194.2 (21)	28.8 (3)	142.0 (3)	482.9 (3)	176.1 (5)	178.6 (2)	63.1 (9)	278.9 (3)	473.1 (12)	59.6 (1)	94.5 (7)	60.0 (1)	93.9 (1)	213.5 (11)
Miscellaneous	1.4 (<1)		6.5 (<1)	10.1 (<1)										
SUBTOTAL UNDAMAGED	948.8	1042.6	5686.3	15261.6	3497.9	9580.3	746.0	9233.4	3908.5	6519.4	1412.0	9605.2	15016.3	1970.2
SUBTOTAL DAMAGED[e]	25.0 (3)	102.1 (9)	226.0 (4)	322.1 (2)	248.2 (7)	535.6 (5)	133.6 (15)	467.8 (5)	205.7 (5)	405.3 (6)	301.3 (18)	434.6 (4)	622.8 (4)	480.4 (20)
TOTAL UNDAMAGED + DAMAGED	973.8	1144.7	5912.3	15583.7	3746.1	10115.9	879.6	9701.2	4114.2	6924.7	1713.3	10039.8	15639.1	2450.6

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table N-24.

[c] Ø - oblique, S - surface; B - bottom.

[d] Percentage is based on total undamaged.

[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
AUGUST 1977

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[d]														
Protozoa		3.2 (1)				7.6 (<1)	34.2 (2)	6.9 (<1)	30.7 (1)		6.3 (1)		22.2 (1)	
Coelenterata			26.9 (1)	88.1 (3)	48.3 (1)	76.1 (1)	4.9 (<1)	48.5 (2)	19.1 (1)	118.2 (2)	6.3 (1)	25.9 (<1)	3.7 (<1)	66.8 (2)
Mollusca	29.2 (3)	31.8 (5)		33.0 (1)	1/3.2 (3)	129.4 (2)	78.2 (4)	13.9 (1)	26.8 (1)	52.6 (1)	31.6 (3)	38.8 (1)	103.5 (3)	55.7 (2)
Polychaeta	12.0 (1)	6.3 (1)		11.0 (<1)	17.5 (1)	22.8 (<1)	14.7 (1)	6.9 (<1)	15.3 (1)	39.4 (1)	6.3 (1)	38.8 (1)		11.1 (<1)
Crustacea														
nauplii	3.4 (<1)				112.5 (3)	30.5 (<1)				13.1 (<1)			7.4 (<1)	
cladocera	17.2 (2)		5.4 (<1)	11.0 (<1)	246.5 (6)	685.2 (9)	97.8 (5)	624.3 (25)	126.5 (5)	591.7 (11)	12.7 (1)	504.9 (7)	395.5 (12)	478.9 (13)
ostracoda														44.5 (1)
copepoda	306.2 (32)	162.3 (27)	1044.2 (82)	2334.5 (69)	2625.3 (66)	4606.4 (57)	1383.2 (72)	1317.9 (53)	1804.9 (76)	3405.7 (64)	947.9 (85)	4272.3 (62)	2383.8 (71)	2271.7 (62)
cirripedia (barnacle) nauplii	394.0 (41)	286.4 (47)			150.0 (4)	60.9 (1)	4.9 (<1)		7.7 (<1)		3.2 (<1)	12.9 (<1)	3.7 (<1)	
decapoda	146.1 (15)	60.4 (10)	26.8 (1)	253.2 (8)	396.0 (10)	1423.5 (18)	97.9 (5)	110.9 (5)	222.3 (9)	407.3 (8)	72.9 (7)	1242.3 (18)	70.3 (2)	177.9 (5)
others	8.6 (1)	22.2 (4)			10.7 (<1)	83.7 (1)		6.9 (<1)	7.6 (<1)		3.2 (<1)	38.8 (1)	3.7 (<1)	11.1 (<1)
Chaetognatha	10.3 (1)		10.7 (1)	22.0 (1)	26.8 (1)	76.1 (1)	63.5 (3)	13.8 (1)	80.5 (3)	184.0 (3)	9.5 (1)	38.7 (1)	81.4 (3)	100.1 (3)
Echinodermata														
Chordata														
urochordata	24.1 (3)	22.3 (4)	317.2 (14)	605.7 (18)	182.2 (5)	639.5 (8)	83.1 (4)	228.9 (9)		394.4 (7)	3.2 (<1)	517.8 (8)	51.7 (2)	367.5 (10)
fish			10.8 (1)	22.0 (1)	26.8 (1)	182.7 (2)	24.5 (1)	69.3 (3)	11.5 (1)	78.9 (2)	12.6 (1)	129.4 (2)	59.1 (2)	44.5 (1)
Eggs	13.7 (1)	12.7 (2)	16.1 (1)	11.0 (<1)	26.8 (1)	38.0 (1)	39.1 (2)	27.7 (1)	11.5 (1)	39.4 (1)		12.9 (<1)	40.7 (1)	33.4 (1)
Miscellaneous					5.4 (<1)	7.6 (<1)	4.9 (<1)			13.1 (<1)				
SUBTOTAL UNDAMAGED	964.8	607.6	2258.1	3391.5	4008.0	8070.0	1930.9	2475.9	2364.4	5337.8	1115.7	6873.5	3226.7	3663.2
SUBTOTAL DAMAGED[e]	41.2 (4)	95.5 (14)	155.9 (7)	473.5 (12)	96.5 (2)	548.1 (6)	112.6 (6)	194.2 (7)	103.6 (4)	446.9 (8)	85.5 (7)	530.7 (7)	125.7 (4)	233.8 (6)
TOTAL UNDAMAGED + DAMAGED	1006.0	703.1	2414.0	3865.0	4104.5	8618.1	2043.5	2670.1	2468.0	5784.7	1201.2	7404.2	3352.4	3897.0

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table N-25.

[c] Ø = oblique; S = surface; B = bottom.

[d] Percentage is based on total undamaged.

[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
SEPTEMBER 1977

Taxon	Station and depth[c]													
	11	12	0		1		2		3		4		5	
	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[d]														
Protozoa		4.9 (<1)	5.1 (<1)		13.3 (<1)		4.1 (<1)		5.2 (<1)	6.2 (<1)			4.8 (<1)	
Coelenterata			10.2 (1)			4.8 (<1)		10.1 (<1)			4.8 (<1)			
Mollusca	271.1 (28)	32.4 (3)	107.5 (5)	116.8 (5)	270.7 (8)	166.3 (4)	24.4 (1)	50.5 (1)	15.6 (1)		4.8 (<1)	58.7 (1)	36.6 (1)	40.3 (1)
Polychaeta			10.2 (1)	16.6 (1)	22.2 (1)							8.4 (<1)	4.8 (<1)	6.7 (<1)
Crustacea nauplii	2.7 (<1)		10.3 (1)								9.5 (1)		4.8 (<1)	
cladocera	1.3 (<1)	3.2 (<1)	30.7 (1)		13.3 (<1)	9.6 (<1)	12.2 (<1)	10.3 (1)		24.9 (1)		25.1 (1)	57.9 (2)	6.7 (<1)
ostracoda														
copepoda	324.7 (34)	594.0 (48)	1685.2 (78)	1742.7 (73)	2817.7 (78)	2921.8 (78)	2789.7 (89)	3050.4 (82)	2252.1 (95)	1681.2 (79)	1064.7 (81)	4432.3 (83)	2727.1 (82)	4033.5 (81)
cirripedia (barnacle) nauplii	259.0 (27)	543.6 (44)	20.5 (1)	8.3 (<1)	124.2 (3)	61.8 (2)		30.3 (1)				50.7 (1)		
decapoda	50.8 (5)	26.0 (2)	215.0 (10)	471.0 (20)	203.8 (6)	399.4 (11)	105.8 (3)	242.4 (7)	26.0 (1)	161.8 (8)	76.4 (6)	343.5 (6)	130.4 (4)	261.6 (5)
others	17.4 (2)	11.4 (1)		16.7 (1)	17.7 (1)	33.3 (1)	8.2 (<1)				4.8 (<1)		4.8 (<1)	6.7 (<1)
Chaetognatha	2.6 (<1)		20.5 (1)	4.2 (<1)	8.9 (<1)	38.0 (1)	40.7 (1)	20.2 (1)	41.6 (2)	31.2 (2)	14.3 (1)	33.5 (1)	48.3 (1)	40.2 (1)
Echinodermata				4.2 (<1)	13.3 (<1)		12.2 (<1)			18.7 (1)		16.7 (<1)	9.7 (<1)	26.8 (1)
Chordata urochordata	18.7 (2)	1.6 (<1)	51.2 (2)	12.5 (1)	88.8 (3)	66.5 (2)	56.9 (2)	212.1 (6)	15.6 (1)	149.3 (7)	109.8 (8)	360.3 (7)	197.9 (6)	422.8 (9)
fish		1.6 (<1)			13.3 (<1)	28.5 (1)	61.0 (2)	50.5 (1)	5.2 (<1)	18.6 (1)	14.3 (1)	8.4 (<1)	111.0 (3)	127.5 (3)
Eggs	12.1 (1)	9.7 (1)	5.1 (<1)	12.5 (1)	13.3 (<1)	14.3 (<1)	24.4 (1)	30.3 (1)	10.4 (<1)	18.7 (1)	4.8 (<1)	33.5 (1)	4.8 (<1)	13.4 (<1)
Miscellaneous										6.2 (<1)	4.8 (<1)			
SUBTOTAL UNDAMAGED	963.1	1228.3	2171.5	[illegible]05.5	3620.5	3744.3	3139.6	3727.1	2371.7	2116.8	1313.0	5370.7	3344.9	4986.2
SUBTOTAL DAMAGED[e]	28.1 (3)	144.5 (11)	107.5 (5)	70.9 (3)	97.5 (3)	118.9 (3)	109.9 (3)	161.6 (4)	62.3 (3)	186.6 (8)	109.9 (8)	310.1 (6)	72.4 (2)	187.9 (4)
TOTAL UNDAMAGED + DAMAGED	991.2	1372.8	2279.0	2476.4	3718.0	3863.2	3249.5	3888.7	2434.0	2303.4	1422.9	5680.8	3417.3	5174.1

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table N-26.

[c] Ø = oblique; S = surface; B = bottom.

[d] Percentage is based on total undamaged.

[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
OCTOBER 1977[c]

	Station and depth[d]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[e]														
Protozoa														
Coelenterata	1.8 (<1)		23.5 (3)	56.5 (4)	22.7 (1)	10.7 (<1)	119.6 (4)		13.1 (1)	13.5 (1)	8.9 (1)	26.0 (1)	10.4 (2)	29.2 (1)
Mollusca	148.3 (5)	67.2 (3)	38.1 (4)	62.2 (4)	62.3 (3)	43.0 (1)	33.2 (1)	2.9 (<1)	2.6 (<1)	5.4 (1)	23.6 (2)	7.4 (<1)	4.1 (1)	26.0 (1)
Polychaeta	285.8 (9)	72.6 (3)	11.7 (1)	33.9 (2)	155.7 (7)	35.8 (1)	86.3 (3)	2.9 (<1)	7.9 (1)	2.7 (1)	8.9 (1)	11.1 (1)	12.3 (2)	29.2 (1)
Crustacea														
nauplii	10.7 (<1)		35.2 (4)	8.5 (1)	25.5 (1)	21.5 (<1)	39.8 (1)	8.7 (1)	10.5 (1)	8.1 (1)	14.8 (1)	7.4 (<1)	20.5 (3)	29.2 (1)
cladocera	157.2 (5)	40.3 (2)	17.6 (2)	257.0 (17)	390.9 (16)	999.7 (31)	942.8 (31)	411.8 (45)	137.2 (9)	225.6 (19)	309.8 (29)	983.5 (44)	76.1 (12)	684.5 (31)
ostracoda														
copepoda	923.3 (28)	1010.4 (42)	539.0 (62)	350.4 (23)	1200.9 (51)	1458.4 (46)	1118.7 (37)	217.5 (24)	150.4 (10)	190.8 (16)	336.3 (32)	657.1 (29)	376.2 (58)	729.9 (33)
cirripedia (barnacle) nauplii	1643.1 (49)	1085.7 (45)	17.6 (2)	48.0 (3)	53.8 (2)	35.8 (1)	39.8 (1)	17.4 (2)	7.9 (1)	45.6 (4)	3.0 (<1)	111.4 (5)	32.9 (5)	55.2 (3)
decapoda	118.0 (4)	83.4 (4)	114.2 (13)	19.8 (1)	99.2 (4)	247.1 (8)	46.4 (2)	17.4 (2)	10.6 (1)	13.5 (1)	20.7 (2)	77.9 (3)	28.9 (4)	142.7 (6)
others	10.7 (<1)	10.8 (1)												6.5 (<1)
Chaetognatha			11.7 (1)	19.8 (1)	22.7 (1)	17.8 (1)	16.6 (1)		18.5 (1)	10.8 (1)	14.8 (1)	14.8 (1)	4.1 (1)	19.4 (1)
Echinodermata	7.2 (<1)	5.4 (<1)	38.1 (4)	630.1 (42)	277.6 (12)	258.0 (8)	597.5 (20)	229.1 (25)	1115.8 (75)	655.4 (55)	303.9 (29)	308.1 (14)	57.6 (9)	421.7 (19)
Chordata														
urochordata	5.4 (<1)	2.7 (<1)	17.6 (2)	2.8 (<1)	39.7 (2)	39.4 (1)	13.3 (<1)	2.9 (<1)	5.3 (<1)	13.4 (1)	5.9 (1)	7.4 (<1)	8.2 (1)	19.5 (1)
fish														
Eggs	19.7 (1)	26.9 (1)	2.9 (<1)	2.8 (<1)	11.3 (1)		3.3 (<1)		5.3 (<1)	8.1 (1)	8.9 (1)	7.4 (<1)	8.2 (1)	3.2 (<1)
Miscellaneous		2.7 (<1)	2.9 (<1)	8.5 (1)	14.1 (1)	21.5 (1)	6.7 (<1)		5.3 (<1)	8.1 (1)	3.0 (<1)	10.5 (1)	6.2 (1)	38.9 (2)
SUBTOTAL UNDAMAGED	3331.2	2408.1	870.1	1500.3	2376.4	3188.7	3064.0	910.6	1490.4	1201.0	1062.5	2238.0	645.7	2235.1
SUBTOTAL DAMAGED[f]	82.2 (2)	53.8 (2)	11.7 (1)	87.8 (6)	88.0 (4)	401.2 (11)	235.6 (7)	133.4 (13)	44.8 (3)	59.2 (5)	221.3 (17)	408.2 (15)	6.2 (1)	249.7 (10)
TOTAL UNDAMAGED + DAMAGED	3413.4	2461.9	881.8	1588.1	2464.4	3589.9	3299.6	1044.0	1535.2	1260.2	1283.8	2646.2	651.9	2484.8

[a] Values expressed are zooplanktors per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table N-27.

[c] Stations 11 and 12 collected 11 October, all other stations collected 19 October.

[d] Ø = oblique; S = surface, B = bottom.

[e] Percentage is based on total undamaged.

[f] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY[a] AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA[b] COLLECTED
ST. LUCIE PLANT
NOVEMBER 1977

	Station and depth[c]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED[d]														
Protozoa					136.5 (2)	121.2 (3)	5.0 (1)				5.1 (1)			
Coelenterata	6.5 (1)			2.5 (1)	19.4 (1)	5.1 (<1)	10.0 (1)	6.6 (1)	4.0 (<1)		72.0 (1)	32.5 (1)	4.4 (<1)	59.4 (1)
Mollusca	91.8 (5)	86.8 (5)	13.8 (1)	31.1 (5)	272.5 (4)	247.5 (6)	19.9 (1)	218.6 (9)	92.0 (3)	357.9 (11)	10.3 (<1)	263.7 (6)	109.5 (5)	81.6 (1)
Polychaeta	500.7 (27)	234.1 (14)	27.1 (1)	13.8 (2)	2579.6 (35)	833.3 (20)	29.8 (1)	192.1 (8)	100.0 (4)	319.5 (9)	1239.4 (25)	486.9 (11)	43.6 (2)	378.6 (7)
Crustacea														
nauplii		4.3 (<1)	7.8 (1)	9.1 (1)	29.2 (<1)	166.7 (4)		6.6 (1)	68.0 (3)	12.8 (1)	20.6 (<1)	16.2 (1)		
cladocera	3.7 (1)		5.5 (1)	7.5 (1)	214.1 (3)	237.4 (6)	168.6 (7)	13.2 (1)	247.8 (9)	57.5 (2)	601.7 (12)	89.3 (2)	258.4 (11)	59.4 (1)
ostracoda					9.7 (1)					6.4 (1)				
copepoda	402.4 (21)	472.8 (28)	753.4 (51)	317.1 (53)	2647.8 (36)	2121.1 (51)	639.6 (28)	854.6 (34)	1267.0 (47)	1252.5 (37)	2381.0 (48)	1492.9 (33)	910.9 (38)	2999.4 (54)
cirripedia (barnacle) nauplii	786.3 (42)	754.6 (45)	16.6 (1)	36.4 (6)	477.0 (7)		19.8 (1)	410.8 (16)	24.0 (1)	396.2 (12)	190.3 (4)	1030.4 (23)	48.2 (2)	653.3 (12)
decapoda	6.4 (1)	17.9 (1)	33.1 (2)	27.7 (5)	68.1 (1)	101.3 (1)	24.8 (1)	185.5 (7)	40.0 (1)	115.2 (3)	143.6 (3)	166.4 (4)	13.2 (1)	289.5 (5)
others	9.1 (1)	17.3 (1)		3.8 (1)		45.5 (1)		39.7 (2)		32.0 (1)		28.4 (1)		14.9 (1)
Chaetognatha	0.9 (1)		19.3 (1)	2.5 (1)	50.4 (1)	30.4 (1)	248.8 (11)	11.7 (1)	32.0 (1)	38.4 (1)	51.4 (1)	28.5 (1)	122.5 (5)	29.8 (1)
Echinodermata	75.0 (1)	21.7 (1)	19.3 (1)	110.3 (19)	321.2 (4)	40.4 (1)	19.8 (1)	477.0 (19)	655.5 (24)	607.1 (18)	92.6 (2)	478.7 (11)	105.1 (4)	556.8 (10)
Chordata														
urochordata	1.9 (1)	17.3 (1)	527.2 (36)	8.8 (1)	340.7 (5)	55.6 (1)	927.2 (40)	33.1 (1)	119.9 (4)	7.5 (2)	56.6 (1)	186.6 (4)	626.3 (26)	237.6 (4)
fish				1.3 (1)			5.0 (1)							7.4 (1)
Eggs	0.9 (1)			2.5 (1)			5.0 (1)	6.6 (1)	16.0 (1)	6.4 (1)	5.1 (<1)	16.2 (<1)		7.4 (1)
Miscellaneous	26.9 (1)	8.7 (1)		2.5 (1)	19.4 (1)	5.1 (1)				19.2 (1)	10.3 (<1)	60.9 (1)	8.8 (<1)	22.2 (1)
SUBTOTAL UNDAMAGED	1862.7	1630.5	1413.1	569.3	7183.6	4010.6	2122.5	2457.6	2666.2	3278.6	4880.0	4377.6	2251.1	5397.3
SUBTOTAL DAMAGED[e]	10.2 (1)	43.4 (3)	63.5 (4)	26.4 (4)	136.3 (2)	141.7 (3)	198.3 (9)	39.7 (2)	32.0 (1)	127.9 (4)	92.5 (2)	93.4 (2)	153.2 (6)	178.2 (3)
TOTAL UNDAMAGED + DAMAGED	1872.9	1673.9	1476.6	595.7	7319.9	4152.3	2320.8	2497.3	2698.2	3406.5	4972.5	4471.0	2404.3	5575.5

[a] Values expressed are zooplankters per cubic meter and represent the mean of three subsamples.

[b] For detailed taxonomic listing, see Table N-28.

[c] Ø - oblique; S - surface; B - bottom.

[d] Percentage is based on total undamaged.

[e] Percentage is based on total undamaged + damaged.

Table 2.2A-14
cont'd

DENSITY (no./m^3) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
23 JANUARY 1978

	Station and depth[a]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa	1.4 (<1)	0.5 (<1)			2.4 (<1)				2.9 (<1)				3.2 (<1)	
Coelenterata	0.7 (<1)	0.5 (<1)	33.4 (2)	14.4 (<1)	2.4 (<1)		25.4 (1)	3.3 (<1)	11.7 (1)		22.5 (2)		6.4 (<1)	1.8 (<1)
Mollusca	88.4 (20)	36.6 (15)	50.0 (4)	241.7 (5)	64.2 (2)	33.1 (2)	62.2 (4)	193.1 (4)	29.2 (3)	3.9 (4)	57.5 (5)	244.5 (9)	152.1 (5)	212.5 (8)
Polychaeta	17.1 (4)	6.9 (3)	9.3 (1)	25.3 (1)	33.4 (1)	10.6 (1)	5.1 (<1)				2.5 (<1)		9.7 (<1)	3.5 (<1)
Crustacea nauplii	1.4 (<1)		38.9 (3)	28.9 (1)	30.9 (1)	5.3 (<1)	6.3 (<1)		11.7 (1)		5.0 (<1)	2.5 (<1)	9.7 (<1)	1.8 (<1)
cladocera										0.6 (1)				
ostracoda		1.0 (<1)		7.2 (<1)		1.3 (<1)		16.7 (<1)			5.0 (<1)	7.6 (<1)		10.6 (<1)
copepoda	150.7 (34)	86.4 (36)	834.4 (59)	2190.6 (44)	1845.6 (70)	765.6 (51)	1009.9 (57)	1264.8 (28)	636.0 (62)	56.5 (52)	825.0 (70)	1431.6 (55)	1942.6 (64)	966.9 (37)
cirripedia (barnacle) nauplii	117.9 (26)	33.7 (14)	44.4 (3)	1865.8 (38)	487.6 (18)	611.7 (40)	384.4 (22)	2766.0 (62)	180.9 (18)	43.6 (40)	22.5 (2)	662.9 (26)	550.4 (18)	1159.9 (44)
decapoda	5.6 (1)	4.0 (2)	1.9 (<1)	39.6 (1)	26.2 (1)	6.6 (<1)	9.0 (1)	66.6 (1)	11.6 (1)	2.3 (2)	20.0 (2)	75.5 (3)	25.7 (1)	40.9 (2)
others	26.8 (6)	11.7 (5)		25.3 (1)	14.3 (1)	4.0 (<1)	5.1 (<1)	20.0 (<1)				12.6 (<1)		5.3 (<1)
Chaetognatha		1.5 (1)	3.7 (<1)	7.2 (<1)	2.4 (<1)	5.3 (<1)	8.9 (1)	3.3 (<1)	8.8 (1)		17.5 (1)	17.6 (1)	12.9 (<1)	1.8 (<1)
Echinodermata	2.8 (1)	7.8 (3)	42.6 (3)	21.7 (<1)	19.0 (1)	1.3 (<1)	13.9 (1)	6.7 (<1)	8.8 (1)		7.5 (1)		12.9 (<1)	
Chordata urochordata		1.5 (1)	186.9 (13)	223.7 (4)	64.2 (2)	14.6 (1)	73.6 (4)	30.0 (1)	49.6 (5)	1.7 (2)	95.0 (8)	47.9 (2)	113.3 (5)	54.9 (2)
fish	8.9 (2)	7.3 (3)	109.2 (8)	137.2 (3)	4.7 (<1)	8.0 (1)	92.6 (5)	63.2 (.)			35.0 (3)	27.7 (1)	174.9 (6)	120.5 (5)
Eggs	23.3 (5)	15.6 (7)	46.3 (3)	144.4 (3)	35.7 (1)	35.8 (2)	76.1 (4)	56.6 (1)	67.1 (7)	1.1 (1)	62.5 (5)	52.9 (2)	35.6 (1)	42.5 (2)
Miscellaneous	1.4 (<1)	22.0 (9)	1.9 (<1)		11.9 (<1)	10.6 (1)	1.3 (<1)	3.3 (<1)	5.8 (1)		5.0 (<1)	5.0 (<1)	6.5 (<1)	5.3 (<1)
SUBTOTAL UNDAMAGED	446.4	237.0	1402.9	4973.0	2644.9	1513.8	1773.8	4493.6	1024.1	109.7	1182.5	2588.3	3055.9	2628.2
SUBTOTAL DAMAGED	7.6 (2)	6.4 (3)	46.4 (3)	187.6 (4)	102.2 (4)	29.3 (2)	30.5 (2)	76.6 (2)	32.2 (3)	12.0 (10)	50.0 (4)	83.1 (3)	110.0 (3)	33.7 (1)
TOTAL UNDAMAGED + DAMAGED	454.0	243.4	1449.3	5160.6	2747.1	1543.1	1804.3	4570.2	1056.3	121.7	1232.5	2671.4	3165.9	2661.9

[a] Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
13 FEBRUARY 1978

Taxon	Station and depth[a] 11 Ø	12 Ø	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
UNDAMAGED														
Protozoa		65.1 (12)	1.6 (<1)		3.2 (<1)						1.0 (<1)			1.5 (<1)
Coelenterata	4.2 (1)	6.4 (1)			6.4 (<1)		2.1 (<1)	4.6 (<1)	2.8 (<1)	5.2 (1)	4.7 (1)	4.8 (1)	2.8 (<1)	3.0 (<1)
Mollusca	18.3 (3)	25.8 (5)	32.1 (2)	123.0 (11)	123.1 (6)	31.3 (5)	22.3 (3)	173.7 (17)	41.4 (6)	73.1 (7)	17.2 (3)	46.7 (13)	23.5 (4)	133.4 (9)
Polychaeta	21.7 (4)	5.1 (1)	11.2 (1)	10.7 (1)	31.6 (2)	2.1 (<1)	16.0 (2)	2.8 (<1)	3.5 (<1)	6.0 (1)	3.7 (1)	1.7 (<1)	0.6 (<1)	10.6 (1)
Crustacea														
nauplii	61.0 (10)	38.7 (7)	156.0 (12)	92.7 (8)	312.5 (16)	13.5 (2)	17.0 (2)	5.6 (1)	1.4 (<1)	0.9 (<1)	23.9 (5)	0.4 (<1)	3.9 (1)	6.1 (<1)
cladocera														
ostracoda		0.6 (<1)						0.9 (<1)	7.6 (1)	67.2 (7)		0.9 (<1)	5.6 (1)	3.0 (<1)
copepoda	190.4 (33)	147.0 (28)	884.4 (69)	732.6 (65)	1221.8 (64)	462.2 (77)	614.8 (75)	649.9 (63)	482.2 (70)	668.4 (66)	311.3 (63)	216.3 (61)	468.3 (75)	1061.4 (69)
cirripedia (barnacle) nauplii	213.0 (36)	161.2 (30)	4.8 (<1)	3.5 (<1)	56.8 (3)	5.2 (1)	13.8 (2)	14.1 (1)	2.8 (<1)	11.9 (1)	3.1 (1)	4.9 (1)	2.8 (<1)	10.6 (1)
decapoda	5.8 (1)	3.2 (1)	6.4 (<1)	12.5 (1)	6.4 (<1)	3.0 (1)	1.1 (<1)	18.5 (2)	1.4 (<1)	30.0 (3)		4.7 (1)	2.4 (<1)	16.6 (1)
others	16.7 (3)	33.5 (6)	51.5 (4)	46.2 (4)	31.6 (2)	36.5 (6)		20.7 (2)	2.8 (<1)	24.7 (2)	9.8 (2)	10.3 (3)	2.2 (<1)	13.6 (1)
Chaetognatha		3.2 (1)	8.0 (1)	17.8 (2)		3.1 (1)	2.1 (<1)	8.4 (1)	4.2 (1)	11.2 (1)	3.6 (1)	4.0 (1)	0.6 (<1)	10.6 (1)
Echinodermata	2.5 (<1)	1.2 (<1)	1.6 (<1)	5.4 (<1)	15.8 (1)	3.1 (1)	37.2 (5)	16.9 (2)	14.5 (2)	7.7 (1)	11.4 (2)	5.3 (1)	20.3 (3)	31.8 (2)
Chordata														
urochordata							3.2 (<1)	4.7 (<1)	3.4 (1)	3.5 (<1)	1.6 (<1)	2.2 (1)	1.1 (<1)	7.5 (<1)
fish			1.6 (<1)		3.2 (<1)	2.1 (<1)		1.9 (<1)			0.5 (<1)	0.9 (<1)	0.6 (<1)	1.5 (<1)
Eggs	47.6 (8)	36.8 (7)	91.7 (7)	76.7 (7)	94.7 (5)	32.3 (5)	86.0 (10)	103.3 (10)	70.4 (10)	100.3 (10)	73.7 (15)	44.0 (12)	58.5 (9)	180.5 (12)
Miscellaneous	3.3 (1)	3.1 (1)	35.4 (3)	10.7 (1)	9.5 (<1)	4.2 (1)	6.5 (1)	4.7 (1)	49.0 (7)	8.6 (1)	27.0 (5)	9.4 (3)	31.5 (5)	45.5 (3)
SUBTOTAL UNDAMAGED	584.5	530.9	1286.3	1131.8	1916.6	598.6	822.1	1030.7	687.4	1018.7	492.5	356.5	624.7	1537.2
SUBTOTAL DAMAGED	1.7 (<1)	4.4 (1)	77.2 (6)	44.6 (4)	56.9 (3)	20.8 (3)	18.1 (2)	19.5 (2)	42.1 (6)	53.0 (5)	19.2 (4)	22.2 (6)	26.4 (4)	46.9 (3)
TOTAL UNDAMAGED + DAMAGED	586.2	535.3	1363.5	1176.4	1973.5	619.4	840.2	1050.2	729.5	1071.7	511.7	378.7	651.1	1584.1

[a]Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
15 MARCH 1978

Taxon	Station and depth[a] 11	12	0		1		2		3		4		5	
	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa		7.3 (2)												
Coelenterata	15.4 (2)	4.8 (1)	0.6 (<1)	3.5 (<1)	3.1 (<1)	6.3 (1)		4.9 (<1)		6.7 (<1)				4.3 (1)
Mollusca	43.4 (5)	40.4 (11)	1.9 (1)	7.0 (1)	55.8 (3)	30.9 (3)	1.6 (1)	9.8 (<1)	6.3 (1)	6.7 (<1)	2.9 (2)	12.5 (1)	1.1 (<1)	1.4 (<1)
Polychaeta	3.1 (<1)	2.4 (1)		1.2 (<1)			0.5 (<1)				0.5 (<1)		1.1 (<1)	1.4 (<1)
Crustacea														
nauplii	5.2 (1)	2.4 (1)		3.5 (<1)		2.1 (<1)	1.6 (1)	4.9 (<1)	9.4 (1)	6.7 (<1)	0.8 (<1)	6.3 (<1)	4.5 (1)	4.3 (1)
cladocera														
ostracoda	140.7 (17)	12.1 (3)	6.8 (3)	23.3 (4)	21.7 (1)	18.6 (2)		380.4 (17)	11.0 (1)	248.9 (13)	0.5 (<1)	579.0 (30)	3.4 (1)	108.2 (19)
copepoda	299.0 (36)	138.4 (37)	103.3 (44)	496.2 (82)	1813.2 (82)	842.0 (80)	91.7 (39)	1594.8 (71)	623.2 (78)	1436.0 (76)	85.2 (51)	1183.1 (60)	391.7 (77)	334.7 (60)
cirripedia (barnacle) nauplii	133.5 (16)	72.0 (19)	1.2 (1)		15.5 (1)	8.2 (1)	1.6 (1)		6.3 (1)	6.7 (<1)		6.3 (<1)	4.5 (1)	
decapoda	38.9 (5)	12.9 (3)	6.1 (3)	12.8 (2)	130.2 (6)	57.9 (5)		87.9 (4)	23.6 (3)	77.6 (4)	1.7 (1)	90.8 (5)	5.6 (1)	46.9 (8)
others	25.8 (3)	22.6 (6)		2.4 (<1)	18.6 (1)	10.4 (1)						6.2 (<1)		2.8 (1)
Chaetognatha	8.2 (1)	1.6 (<1)	2.5 (1)	1.2 (<1)	24.8 (1)	18.6 (2)	5.4 (2)	9.8 (<1)	3.2 (<1)	3.4 (<1)	9.8 (6)	25.0 (1)	7.9 (2)	4.2 (1)
Echinodermata	1.0 (<1)		0.6 (<1)			2.1 (<1)								1.4 (<1)
Chordata														
urochordata			5.6 (2)	5.8 (1)	18.6 (1)	4.1 (<1)	22.3 (9)	43.9 (2)	44.1 (6)	33.6 (2)	9.9 (6)	18.8 (1)	9.0 (2)	12.8 (2)
fish	49.7 (6)	16.2 (4)			3.1 (<1)		1.1 (<1)				2.7 (2)	3.1 (<1)	1.1 (<1)	
Eggs	54.9 (7)	39.7 (11)	108.2 (46)	46.6 (8)	99.2 (4)	57.7 (5)	111.4 (47)	107.3 (5)	69.2 (9)	70.6 (4)	53.6 (32)	25.1 (1)	77.7 (15)	34.2 (6)
Miscellaneous	1.0 (<1)				3.1 (<1)								1.1 (<1)	
SUBTOTAL UNDAMAGED	819.8	372.8	236.8	603.5	2206.9	1058.9	237.2	2243.7	796.3	1896.9	167.6	1956.2	508.7	556.6
SUBTOTAL DAMAGED	10.3 (1)	9.7 (3)	21.0 (8)	27.0 (4)	58.9 (3)	99.1 (9)	11.4 (5)	175.7 (7)	42.5 (5)	154.9 (8)	7.5 (4)	156.4 (7)	32.6 (6)	61.0 (10)
TOTAL UNDAMAGED + DAMAGED	830.1	382.5	257.8	630.5	2265.8	1158.0	248.6	2419.4	838.8	2051.8	175.1	2112.6	541.3	617.6

[a] Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
25 APRIL 1978

Taxon	Station and depth[a] 11	12	0		1		2		3		4		5	
	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa		4.9 (1)									3.4 (1)		5.8 (<1)	
Coelenterata	178.3 (2)	2.0 (<1)											23.2 (1)	9.4 (<1)
Mollusca	82.8 (1)	2.4 (<1)	19.1 (2)	24.1 (1)	31.9 (2)	69.9 (3)	30.2 (2)	23.4 (1)	1.4 (<1)	22.4 (1)	3.4 (<1)	86.5 (1)	110.1 (3)	9.4 (<1)
Polychaeta	1037.8 (12)	10.2 (1)	33.5 (3)		31.9 (2)	39.5 (2)	2.0 (<1)	8.8 (<1)					5.8 (<1)	23.5 (1)
Crustacea														
nauplii	121.0 (1)	5.4 (1)	2.4 (<1)	26.3 (1)	14.5 (1)	66.8 (3)	6.0 (<1)		2.9 (1)	2.8 (<1)	20.4 (1)			18.8 (1)
cladocera	6.4 (<1)		16.7 (1)	13.1 (1)	23.2 (2)	27.3 (1)	76.6 (5)	14.6 (<1)	2.2 (1)		37.4 (2)		17.4 (1)	51.7 (2)
ostracoda								11.7 (<1)				38.4 (1)		
copepoda	1470.8 (17)	84.7 (10)	932.7 (80)	1280.1 (68)	1076.1 (79)	1020.6 (47)	1375.2 (86)	2583.3 (80)	201.1 (71)	1562.9 (90)	1759.0 (89)	4026.2 (63)	2630.4 (76)	1139.0 (37)
cirripedia (barnacle) nauplii	3056.3 (35)	691.2 (82)	21.5 (2)	352.3 (19)	8.7 (1)	689.5 (31)	16.1 (1)	280.5 (9)	0.7 (<1)	22.4 (1)		1614.3 (25)	86.9 (3)	1463.7 (47)
decapoda	261.3 (3)	9.9 (1)		37.3 (2)	20.3 (1)	45.4 (2)	4.0 (<1)	169.3 (5)		50.4 (3)		394.0 (6)	17.4 (1)	108.2 (4)
others	184.7 (2)	21.4 (3)	11.9 (1)	37.2 (2)	87.0 (6)	121.5 (6)	6.0 (<1)	52.5 (2)	12.9 (5)	36.5 (2)		173.0 (3)	370.8 (11)	28.2 (1)
Chaetognatha	6.4 (<1)	1.5 (<1)	2.4 (<1)		14.5 (1)	6.1 (<1)	8.0 (<1)	17.6 (1)	2.1 (1)			9.6 (<1)	23.2 (1)	
Echinodermata	95.5 (1)	1.0 (<1)											5.8 (<1)	
Chordata														
urochordata	2056.7 (24)	1.5 (<1)		13.1 (1)			10.0 (1)	5.8 (<1)		2.8 (<1)			81.1 (2)	207.1 (7)
fish	50.9 (1)	1.0 (<1)	83.7 (7)	28.5 (2)	17.4 (1)	15.2 (1)	22.1 (1)	2.9 (<1)	9.3 (3)	2.8 (<1)	51.0 (3)		11.6 (<1)	
Eggs	63.7 (1)	2.5 (<1)	45.4 (4)	61.3 (3)	26.1 (2)	88.1 (4)	50.4 (3)	78.9 (2)	50.4 (18)	36.5 (2)	102.1 (5)	57.6 (1)	57.9 (2)	23.5 (1)
Miscellaneous	12.7 (<1)		2.4 (<1)		2.9 (<1)									4.7 (<1)
SUBTOTAL UNDAMAGED	8685.3	839.6	1171.7	1873.3	1354.5	2189.9	1606.6	3249.3	283.0	1739.5	1976.7	6399.6	3447.4	3087.2
SUBTOTAL DAMAGED	191.1 (2)	8.3 (1)	35.9 (3)	78.8 (4)	118.9 (8)	85.1 (4)	98.7 (6)	309.6 (9)	36.7 (11)	182.4 (9)	23.8 (1)	345.9 (5)	92.8 (3)	61.2 (2)
TOTAL UNDAMAGED + DAMAGED	8876.4	847.9	1207.6	1952.1	1473.4	2275.0	1705.3	3558.9	319.7	1921.9	2000.5	6745.5	3540.2	3148.4

[a] Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
17 MAY 1978

	Station and depth[a]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa		1.3 (<1)		1.1 (<1)			0.5 (<1)							
Coelenterata	59.2 (1)				2.2 (<1)	14.2 (1)	1.5 (1)						2.6 (<1)	
Mollusca	66.6 (2)	27.0 (3)		1.1 (<1)		7.1 (1)	2.0 (1)	76.0 (1)	1.8 (1)	20.0 (1)		3.8 (<1)	5.2 (1)	11.3 (1)
Polychaeta	66.6 (2)	1.3 (<1)			2.2 (<1)		1.0 (<1)			4.0 (<1)	0.5 (<1)			
Crustacea nauplii	177.7 (4)	1.3 (<1)				4.7 (<1)	0.5 (<1)				0.5 (<1)			
cladocera	7.4 (<1)												1.3 (<1)	
ostracoda										4.0 (<1)				3.8 (<1)
copepoda	251.7 (6)	158.2 (18)	132.8 (44)	363.3 (67)	797.3 (85)	794.0 (80)	88.7 (34)	4576.8 (72)	86.0 (42)	1133.7 (52)	56.1 (36)	816.7 (62)	364.7 (65)	1015.4 (72)
cirripedia (barnacle) nauplii	880.9 (21)	702.0 (78)		2.2 (<1)				121.6 (2)	0.6 (<1)			30.4 (2)		
decapoda	7.4 (<1)	1.3 (<1)	3.1 (1)	8.8 (2)	6.5 (1)	47.5 (5)	4.0 (2)	288.8 (5)	0.6 (<1)	48.0 (2)	3.0 (2)	102.6 (8)		94.4 (7)
others				2.2 (<1)		2.4 (<1)	1.5 (1)	45.6 (1)		8.0 (<1)	1.0 (1)	3.8 (<1)		7.5 (1)
Chaetognatha	14.8 (<1)	3.9 (<1)		1.1 (<1)	10.9 (1)	16.6 (2)	3.0 (1)			8.0 (<1)	2.0 (1)	7.6 (1)	6.5 (1)	3.8 (<1)
Echinodermata	1532.4 (37)													
Chordata urochordata	1058.6 (26)		2.0 (1)	47.8 (9)	6.5 (1)	28.4 (3)	6.4 (2)	1003.5 (16)	3.6 (2)	901.3 (42)	1.5 (1)	220.3 (17)	19.7 (4)	184.3 (13)
fish	7.4 (<1)		0.5 (<1)	1.1 (<1)	4.3 (<1)		5.4 (2)		2.4 (1)		2.0 (1)		9.2 (2)	11.3 (1)
Eggs			165.0 (54)	115.5 (21)	107.7 (11)	82.7 (8)	148.3 (56)	212.9 (3)	110.9 (54)	36.1 (2)	91.0 (57)	125.4 (10)	152.2 (27)	75.2 (5)
Miscellaneous														
SUBTOTAL UNDAMAGED	4130.7	896.3	303.4	544.2	937.6	997.6	262.8	6325.2	205.9	2163.1	159.6	1310.6	561.4	1407.0
SUBTOTAL DAMAGED	81.4 (2)	3.9 (<1)	3.5 (1)	42.1 (7)	43.1 (4)	23.6 (2)	5.0 (2)	228.1 (3)	5.3 (3)	312.4 (13)	3.0 (2)	186.1 (12)	30.1 (5)	90.3 (6)
TOTAL UNDAMAGED + DAMAGED	4212 1	900.2	306.9	586.3	980.7	1021.2	267.8	6553.3	211.2	2475.5	162.6	1496.7	591.5	1497.3

[a] Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
21 JUNE 1978

	Station and depth[a]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa							14.7 (<1)					4.0 (<1)	8.6 (<1)	
Coelenterata	7.0 (2)		17.4 (1)	3.9 (<1)	17.8 (1)	5.0 (<1)	14.7 (<1)	3.6 (<1)	27.8 (<1)	18.0 (<1)		20.2 (1)	8.6 (<1)	44.0 (1)
Mollusca	22.3 (6)	8.0 (2)	66.7 (2)	42.8 (2)	53.4 (2)	64.6 (4)	58.7 (1)	101.0 (4)	305.3 (4)	179.4 (5)	71.9 (4)	60.6 (2)	112.0 (3)	167.5 (4)
Polychaeta	0.7 (<1)	0.9 (<1)						7.2 (<1)					8.6 (<1)	44.0 (1)
Crustacea nauplii	11.1 (3)	16.1 (5)		3.9 (<1)	26.7 (1)			3.6 (<1)		26.9 (1)	7.0 (<1)	8.1 (<1)	8.6 (<1)	17.6 (<1)
cladocera												4.0 (<1)		
ostracoda														
copepoda	195.1 (49)	164.3 (51)	2365.0 (85)	1935.4 (72)	1896.0 (56)	932.8 (55)	4988.7 (70)	1236.9 (52)	3899.7 (46)	1820.1 (46)	1328.2 (79)	1603.6 (65)	2619.1 (65)	1789.6 (44)
cirripedia (barnacle) nauplii	19.5 (5)	88.4 (28)	8.7 (<1)	62.2 (2)	213.6 (6)	124.0 (7)	58.7 (1)	274.1 (11)	1415.6 (17)	842.8 (21)	7.0 (<1)	88.9 (4)	189.6 (5)	546.6 (13)
decapoda	34.3 (9)	17.0 (5)	72.5 (3)	276.2 (10)	640.8 (19)	248.2 (15)	1012.5 (14)	187.4 (8)	791.0 (9)	583.0 (15)	39.5 (2)	407.9 (17)	94.6 (2)	784.5 (19)
others	1.4 (<1)	5.4 (2)		3.9 (<1)	26.7 (1)	29.8 (2)	117.4 (2)	21.6 (1)	194.3 (2)	116.6 (3)	9.3 (1)	12.1 (<1)		193.9 (5)
Chaetognatha	2.1 (1)		49.3 (2)	23.4 (1)	8.9 (<1)	14.9 (1)	102.8 (1)	21.6 (1)	208.1 (2)	18.0 (<1)	16.3 (1)	44.3 (2)	17.2 (<1)	17.6 (<1)
Echinodermata	0.7 (<1)							21.6 (1)				4.0 (<1)	8.6 (<1)	35.2 (1)
Chordata urochordata	32.1 (8)	0.9 (<1)	130.6 (5)	209.9 (8)	364.9 (11)	203.4 (12)	322.8 (5)	385.8 (16)	1443.3 (17)	286.9 (7)	118.2 (7)	145.4 (6)	749.5 (19)	317.4 (8)
fish	0.7 (<1)		11.6 (<1)	11.7 (<1)	17.8 (<1)	24.8 (1)	205.4 (3)	25.2 (1)	41.7 (<1)	17.9 (<1)	30.2 (2)	12.1 (<1)		8.8 (<1)
Eggs	66.2 (17)	18.7 (6)	49.3 (2)	101.0 (4)	115.7 (3)	49.6 (3)	205.4 (3)	61.3 (3)	208.1 (2)	44.8 (1)	55.6 (3)	48.5 (2)	180.9 (5)	61.7 (2)
Miscellaneous	1.4 (<1)	0.9 (<1)			8.9 (<1)			39.6 (2)	13.9 (<1)			4.0 (<1)		79.3 (2)
SUBTOTAL UNDAMAGED	394.6	320.6	2771.1	2674.3	3391.2	1697.1	7101.8	2390.5	8548.8	3954.4	1683.2	2467.7	4005.9	4107.7
SUBTOTAL DAMAGED	15.4 (4)	35.8 (10)	63.8 (2)	206.1 (7)	231.4 (6)	153.9 (8)	410.8 (5)	274.0 (10)	527.3 (6)	269.0 (6)	118.3 (7)	149.5 (6)	335.9 (8)	176.2 (4)
TOTAL UNDAMAGED + DAMAGED	410.0	356.4	2834.9	2880.4	3622.6	1851.0	7512.6	2664.5	9076.1	4223.4	1801.5	2617.2	4341.8	4283.9

[a] Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
12 JULY 1978

	Station and depth[a]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa		0.8 (1)	2.0 (<1)	11.5 (<1)	12.8 (<1)		1.3 (<1)	8.3 (<1)	3.3 (1)					
Coelenterata			30.5 (1)	45.9 (1)			5.2 (1)	33.3 (<1)	1.4 (<1)	21.9 (1)		17.1 (<1)		18.9 (<1)
Mollusca	8.4 (4)	4.0 (3)	6.1 (<1)	68.8 (1)	76.5 (1)	16.6 (<1)	2.6 (<1)	33.3 (<1)	1.3 (<1)	5.5 (<1)	63.0 (1)	34.2 (<1)	8.3 (<1)	6.3 (<1)
Polychaeta	0.6 (<1)			22.9 (<1)			7.8 (1)	8.3 (<1)			21.0 (<1)	34.2 (<1)		18.9 (<1)
Crustacea nauplii				332.4 (5)			36.4 (4)	316.9 (4)	3.3 (1)	21.9 (1)	21.0 (<1)	410.4 (3)		6.3 (<1)
cladocera		0.8 (1)		4[illegible].9 (1)			49.4 (6)	492.1 (6)	2.7 (1)	21.9 (1)	21.0 (<1)	188.1 (2)	8.3 (<1)	18.9 (<1)
ostracoda				126.1 (2)			61.1 (7)	792.3 (9)	1.3 (<1)	32.8 (1)	21.0 (<1)	2787.4 (23)		176.3 (3)
copepoda	53.7 (24)	34.5 (23)	1617.6 (75)	4389.7 (65)	2130.5 (39)	5615.1 (91)	506.9 (59)	5045.6 (57)	187.0 (49)	1798.1 (72)	10093.9 (87)	6344.4 (52)	8230.1 (94)	3966.7 (79)
cirripedia (barnacle) nauplii	84.6 (38)	55.7 (37)		11.5 (<1)		8.3 (<1)	3.9 (1)							
decapoda	7.6 (3)	8.7 (6)	34.4 (2)	1157.8 (17)	127.8 (2)	240.8 (4)	76.7 (9)	658.6 (7)	28.1 (7)	218.8 (9)	251.9 (2)	1846.8 (15)	198.5 (2)	629.7 (13)
others	6.4 (3)	2.4 (2)	8.1 (<1)	[illegible] (1)	12.8 (<1)	8.3 (<1)		83.3 (1)		11.0 (<1)	63.0 (1)	17.1 (<1)	8.3 (<1)	6.3 (<1)
Chaetognatha			26.4 (1)	80.3 (1)	38.3 (1)	66.5 (1)	24.7 (3)	383.6 (4)	9.3 (2)	125.8 (5)	293.9 (3)	239.4 (2)	49.6 (1)	94.5 (2)
Echinodermata														
Chordata urochordata	0.6 (<1)		134.1 (6)	217.8 (3)	25.5 (1)	49.8 (1)	65.0 (8)	700.5 (8)	30.0 (8)	82.0 (3)	293.8 (3)	324.9 (3)	33.1 (<1)	56.7 (1)
cephalochordata							1.3 (<1)	200.2 (2)						
fish			24.4 (1)	11.5 (<1)	2959.6 (54)	58.1 (1)		8.3 (<1)	1.3 (<1)	10.9 (<1)	63.0 (1)		16.5 (<1)	
Eggs	57.5 (26)	42.4 (28)	268.2 (13)	183.4 (3)	89.3 (2)	132.9 (2)	11.7 (1)	116.8 (1)	108.9 (29)	153.0 (6)	461.7 (4)	68.4 (1)	214.8 (2)	37.8 (1)
Miscellaneous	0.6 (<1)													
SUBTOTAL UNDAMAGED	220.0	149.3	2151.8	6751.4	5473.1	6196.4	854.0	8881.4	377.9	2503.6	11668.2	12312.4	8767.5	5037.3
SUBTOTAL DAMAGED	5.1 (2)	0.0 (0)	75.2 (3)	309.6 (4)	63.8 (1)	91.4 (2)	24.7 (3)	800.4 (8)	22.8 (6)	355.4 (12)	84.0 (1)	222.3 (2)	148.8 (2)	226.7 (4)
TOTAL UNDAMAGED + DAMAGED	225.1	149.3	2227.0	7061.0	5536.9	6287.8	878.7	9681.8	400.7	2859.0	11752.2	12534.7	8916.3	5264.0

[a]Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
8 AUGUST 1978

	Station and depth[a]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa		1.2 (<1)	9.2 (1)		47.4 (<1)	40.8 (<1)	22.4 (1)		3.3 (<1)		15.4 (<1)			
Coelenterata	2.9 (1)		1.8 (<1)		94.8 (<1)	68.1 (<1)		9.7 (<1)	6.7 (1)	5.0 (<1)				7.7 (<1)
Mollusca	8.7 (2)	6.1 (1)	36.6 (2)	113.2 (1)	521.4 (1)	163.3 (1)	31.3 (1)	77.7 (1)	11.7 (1)	19.9 (1)	46.0 (1)	81.5 (<1)	29.5 (1)	15.5 (<1)
Polychaeta	2.1 (<1)		1.8 (<1)		94.8 (<1)	95.2 (1)	4.5 (<1)	48.6 (1)		9.9 (<1)		81.5 (<1)	4.2 (<1)	7.7 (<1)
Crustacea														
nauplii	10.8 (3)	14.8 (2)	36.6 (2)	66.0 (1)	711.1 (1)	177.0 (1)	8.9 (<1)	145.7 (2)	20.1 (2)	74.7 (2)	15.3 (<1)	374.8 (2)	12.6 (1)	232.4 (3)
cladocera	0.7 (<1)		5.5 (<1)	132.0 (1)	189.6 (<1)		89.3 (3)		23.4 (2)	29.8 (1)	61.4 (1)	32.6 (<1)	67.5 (3)	30.9 (<1)
ostracoda				9.4 (<1)						9.9 (1)		16.3 (<1)		
copepoda	112.9 (27)	196.1 (25)	1149.4 (77)	7844.2 (86)	42284.9 (82)	10620.0 (75)	1781.9 (68)	4983.6 (82)	470.1 (47)	3014.7 (78)	4021.8 (82)	15189.0 (84)	2015.2 (81)	6080.6 (77)
cirripedia (barnacle) nauplii	239.4 (57)	531.4 (68)	3.7 (<1)	56.6 (1)	2796.9 (5)	1102.8 (8)	17.9 (1)	330.3 (5)	1.7 (<1)	24.9 (1)	61.4 (1)	1157.1 (6)	8.4 (<1)	735.9 (9)
decapoda	9.4 (2)	7.4 (1)	12.8 (1)	509.2 (6)	1753.9 (3)	680.6 (5)	4.5 (<1)	145.6 (2)	1.7 (<1)	194.3 (5)	61.4 (1)	603.0 (3)	8.4 (<1)	573.0 (7)
others	2.2 (1)	2.5 (<1)	16.5 (1)	56.6 (1)	948.1 (2)	653.5 (5)	4.5 (<1)	29.1 (<1)		19.9 (1)		228.2 (1)		38.7 (1)
Chaetognatha			12.8 (1)	18.9 (<1)	142.2 (<1)	40.8 (<1)	17.9 (1)	38.8 (1)	3.4 (<1)	59.8 (2)	23.1 (<1)	48.9 (<1)	21.0 (1)	7.7 (<1)
Echinodermata	0.7 (<1)													
Chordata														
urochordata	2.9 (1)	4.9 (1)	65.9 (4)	301.7 (3)	1469.6 (3)	435.7 (3)	250.1 (10)	194.3 (3)	175.6 (18)	299.0 (8)	429.8 (9)	228.2 (1)	194.0 (8)	100.7 (1)
fish			40.3 (3)		47.4 (<1)		218.8 (8)		66.9 (6)	5.0 (<1)	23.0 (<1)		8.4 (<1)	
Eggs	30.2 (7)	17.3 (2)	108.0 (7)	66.0 (1)	426.6 (1)	68.1 (<1)	160.8 (6)	58.3 (1)	209.1 (21)	104.6 (3)	115.2 (2)	97.8 (1)	105.4 (4)	46.5 (1)
Miscellaneous											7.7 (<1)			
SUBTOTAL UNDAMAGED	422.9	781.7	1500.9	9173.8	51528.7	14145.9	2612.8	6061.7	993.7	3881.4	4881.5	18138.9	2474.6	7877.3
SUBTOTAL DAMAGED	3.6 (1)	9.8 (1)	29.3 (2)	235.7 (3)	758.4 (2)	204.2 (1)	147.4 (5)	135.9 (2)	40.1 (4)	124.5 (3)	222.8 (4)	97.8 (1)	80.0 (3)	123.7 (2)
TOTAL UNDAMAGED + DAMAGED	426.5	791.5	1530.2	9409.5	52287.1	14350.1	2760.2	6197.6	1033.8	4005.9	5104.3	18236.7	2554.6	8001.0

[a] Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
12 SEPTEMBER 1978

Taxon	Station and depth[a] 11 Ø	12 Ø	0 S	0 B	1 S	1 B	2 S	2 B	3 S	3 B	4 S	4 B	5 S	5 B
UNDAMAGED														
Protozoa														
Coelenterata	4.8 (1)		49.5 (1)	120.7 (5)	290.4 (4)	100.4 (3)	67.6 (1)	36.0 (1)	14.9 (<1)	15.4 (<1)	61.5 (1)	48.0 (1)	40.1 (1)	17.0 (<1)
Mollusca	380.3 (40)	64.8 (7)	841.6 (15)	198.8 (8)	2599.9 (36)	734.0 (23)	1536.5 (18)	204.1 (5)	425.5 (13)	616.9 (14)	2255.2 (30)	467.7 (14)	160.3 (5)	508.8 (3)
Polychaeta	42.5 (4)	10.0 (1)	181.5 (3)	21.3 (1)	158.4 (2)	92.7 (3)	84.4 (1)	12.0 (<1)	7.5 (<1)		20.5 (<1)		10.0 (<1)	67.8 (<1)
Crustacea														
nauplii	6.5 (1)	2.5 (<1)	49.5 (1)	42.6 (2)	224.4 (3)	7.7 (<1)	33.8 (<1)	60.0 (1)	7.5 (<1)	92.6 (2)	20.5 (<1)	36.0 (1)		169.6 (1)
cladocera	4.9 (1)		1237.6 (22)	340.8 (14)	554.3 (8)	255.0 (8)	2498.9 (29)	1848.6 (45)	679.1 (21)	1624.8 (38)	2316.7 (32)	1283.2 (39)	751.4 (23)	11785.6 (72)
ostracoda														
copepoda	119.6 (13)	181.9 (20)	2079.2 (37)	844.9 (36)	2190.9 (31)	1282.7 (40)	3511.9 (41)	924.4 (23)	1806.2 (55)	1017.8 (24)	2111.7 (29)	959.4 (29)	2073.7 (63)	2391.0 (15)
cirripedia (barnacle) nauplii	344.2 (36)	583.1 (63)	16.5 (<1)	71.0 (3)	184.8 (3)	131.3 (4)	50.7 (1)	96.0 (2)		46.3 (1)	20.5 (<1)	71.9 (2)	50.1 (2)	339.2 (2)
decapoda	27.7 (3)	57.4 (6)	445.5 (8)	418.9 (18)	422.4 (6)	401.8 (13)	236.6 (3)	528.0 (13)	201.5 (6)	262.3 (6)	205.0 (3)	227.9 (7)	50.0 (2)	254.5 (2)
others		5.0 (1)	16.5 (<1)		13.2 (<1)	23.2 (1)		72.0 (2)		15.4 (<1)				
Chaetognatha	3.3 (<1)		165.0 (3)	63.9 (3)	250.8 (4)	69.5 (2)	118.3 (1)	108.0 (3)	74.7 (2)	231.3 (5)	123.0 (2)	72.0 (2)	90.2 (3)	135.7 (1)
Echinodermata	1.6 (<1)					15.5 (<1)	101.3 (1)	24.0 (1)	22.4 (1)	30.9 (1)	41.0 (1)		60.1 (2)	356.1 (2)
Chordata														
urochoroata	1.6 (<1)	17.5 (2)	462.1 (8)	248.5 (10)	224.4 (3)	77.3 (2)	253.3 (3)	192.0 (5)	52.3 (2)	323.9 (8)	82.0 (1)	120.0 (4)	30.1 (1)	237.5 (1)
cephalochordata	1.6 (<1)										20.5 (<1)	12.0 (<1)		17.0 (<1)
fish							16.9 (<1)			15.4 (<1)				17.0 (<1)
Eggs														
Miscellaneous	13.1 (1)	5.0 (1)	66.0 (1)		13.2 (<1)	7.7 (<1)	16.9 (<1)					12.0 (<1)		
SUBTOTAL UNDAMAGED	951.7	927.2	5610.5	2371.4	7127.1	3198.8	8527.1	4105.1	3291.6	4303.0	7278.1	3310.1	3316.0	16296.8
SUBTOTAL DAMAGED	8.2 (1)	42.5 (4)	132.0 (2)	163.3 (6)	211.2 (3)	92.7 (3)	270.2 (3)	276.0 (6)	134.4 (4)	370.2 (8)	348.5 (5)	275.9 (8)	130.4 (4)	678.5 (4)
TOTAL UNDAMAGED + DAMAGED	959.3	969.7	5742.5	2534.7	7338.3	3291.5	8797.3	4381.1	3426.0	4673.2	7626.6	3586.0	3446.4	16975.3

[a] Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
3 OCTOBER 1978

Taxon	Station and depth[a] 11	12	0		1		2		3		4		5	
	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa		3.1 (<1)			12.0 (<1)				13.4 (<1)		12.0 (<1)			
Coelenterata	7.9 (1)		4.4 (<1)	51.3 (1)	12.0 (<1)			13.6 (<1)			6.0 (<1)			47.1 (2)
Mollusca	17.4 (1)	12.5 (1)	106.2 (3)	222.6 (6)	1235.7 (22)	902.9 (25)	215.9 (4)	34.0 (1)	94.0 (1)	19.1 (<1)	60.0 (2)	36.5 (1)	116.8 (1)	198.1 (8)
Polychaeta					48.0 (1)	20.5 (1)						3.7 (<1)		
Crustacea nauplii	45.8 (4)	72.2 (4)	44.3 (1)	17.1 (<1)	120.0 (2)	20.5 (1)		13.6 (<1)	67.2 (1)	19.0 (<1)	6.0 (<1)	29.2 (1)	93.4 (1)	56.6 (2)
cladocera	41.1 (3)	6.3 (<1)	1353.7 (37)	1048.7 (30)	815.8 (15)	485.7 (14)	2898.8 (56)	3201.9 (76)	1504.0 (22)	4636.0 (89)	761.7 (20)	1197.9 (44)	992.6 (12)	1084.5 (44)
ostracoda														
copepoda	205.4 (16)	649.0 (40)	1720.8 (48)	1579.5 (46)	2675.4 (48)	1238.1 (35)	1569.8 (30)	625.5 (15)	3666.0 (54)	342.7 (7)	2045.1 (55)	1113.8 (41)	6726.7 (80)	537.6 (22)
cirripedia (barnacle) nauplii	907.1 (72)	837.3 (52)	35.4 (1)	17.1 (<1)	180.0 (3)	27.3 (1)	24.9 (<1)	34.0 (1)	134.3 (2)	38.1 (1)		32.9 (1)		75.5 (3)
decapoda	6.3 (<1)	3.1 (<1)	194.6 (5)	436.6 (13)	264.0 (5)	813.8 (23)	307.2 (6)	224.4 (5)	1101.0 (16)	104.8 (2)	683.7 (18)	289.0 (11)	280.3 (3)	405.4 (17)
others		25.0 (2)	4.4 (<1)			13.6 (<1)			13.4 (<1)		18.0 (<1)			
Chaetognatha	3.1 (<1)		132.7 (4)	55.6 (2)	96.0 (2)	41.0 (1)	74.8 (1)	6.8 (<1)	94.0 (1)		119.9 (3)	14.6 (1)	116.8 (1)	18.9 (1)
Echinodermata			8.8 (<1)	8.5 (<1)	12.0 (<1)	6.8 (<1)		20.4 (<1)						9.4 (<1)
Chordata urochordata	12.6 (1)	15.7 (1)	8.8 (<1)		84.0 (2)	13.7 (<1)	99.7 (2)	13.6 (<1)	120.9 (2)	28.6 (1)	36.0 (1)	3.7 (<1)	58.4 (1)	9.4 (<1)
fish	1.6 (<1)													
Eggs														
Miscellaneous	14.2 (1)			12.8 (<1)	12.0 (<1)				13.4 (<1)	9.5 (<1)				9.4 (<1)
SUBTOTAL UNDAMAGED	1262.5	1624.2	3614.1	3449.8	5566.9	3583.9	5191.1	4187.8	6821.6	5197.8	3748.4	2721.3	8385.0	2451.9
SUBTOTAL DAMAGED	1.6 (<1)	50.1 (3)	75.2 (2)	111.3 (3)	372.0 (6)	177.7 (5)	124.6 (2)	469.1 (10)	201.5 (3)	1275.5 (20)	66.0 (2)	482.2 (15)	268.6 (3)	273.5 (10)
TOTAL UNDAMAGED + DAMAGED	1264.1	1674.3	3689.3	3561.1	5938.9	3761.6	5315.7	4656.9	7023.1	6473.3	3814.4	3203.5	8653.6	2725.4

[a]Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
7 NOVEMBER 1978

	Station and depth[a]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa							1.4 (<1)							
Coelenterata			13.4 (1)	3.5 (<1)	14.3 (1)								1.4 (<1)	
Mollusca	1.7 (<1)	3.4 (<1)	26.8 (2)	24.2 (1)	7.1 (<1)	3.8 (<1)		2.8 (1)	1.3 (<1)	2.5 (1)	16.6 (3)	3.3 (1)	2.8 (<1)	2.5 (1)
Polychaeta			2.7 (<1)				1.4 (<1)				6.7 (1)		2.9 (<1)	
Crustacea nauplii	5.2 (<1)		8.0 (1)	6.9 (<1)	17.8 (1)		7.0 (1)	2.7 (<1)			8.3 (1)		4.3 (1)	
cladocera														
ostracoda								13.5 (2)	1.3 (<1)	6.1 (1)	3.3 (1)	21.6 (4)		3.5 (2)
copepoda	41.8 (3)	197.5 (18)	955.2 (86)	1505.4 (86)	2578.4 (94)	1690.9 (93)	528.8 (71)	308.3 (56)	309.0 (65)	242.3 (59)	422.8 (70)	451.1 (75)	401.3 (65)	131.9 (76)
cirripedia (barnacle) nauplii	1164.3 (96)	889.6 (81)	8.0 (1)	27.6 (2)			32.4 (4)	5.4 (1)	9.1 (2)	3.7 (1)	21.7 (4)		64.7 (10)	1.8 (1)
decapoda		1.7 (<1)	48.1 (4)	69.2 (4)	67.8 (2)	3.8 (<1)	70.3 (9)	150.3 (27)	86.1 (18)	99.8 (24)	48.5 (8)	58.3 (10)	67.5 (11)	13.6 (8)
others				3.5 (<1)	3.6 (<1)			1.4 (<1)				5.0 (1)	1.4 (<1)	1.1 (1)
Chaetognatha			2.7 (<1)	13.9 (1)	14.3 (1)	26.8 (2)	4.2 (1)	19.0 (3)	1.3 (<1)	13.4 (3)	5.0 (1)	10.0 (2)	7.1 (1)	10.7 (6)
Echinodermata							1.4 (<1)		2.6 (1)		1.7 (<1)		1.4 (<1)	
Chordata urochordata	1.7 (<1)	1.7 (<1)					7.0 (1)	1.4 (<1)	1.3 (<1)				1.4 (<1)	0.7 (<1)
fish														
Eggs			45.5 (4)	96.7 (6)	28.5 (1)	3.8 (<1)	92.8 (12)	48.7 (9)	60.0 (13)	43.8 (11)	69.9 (12)	54.7 (9)	60.4 (10)	8.9 (5)
Miscellaneous							2.8 (<1)		6.5 (1)					
SUBTOTAL UNDAMAGED	1214.7	1093.9	1110.4	1750.9	2731.8	1729.1	749.5	553.5	478.5	411.6	604.5	604.0	616.6	174.7
SUBTOTAL DAMAGED	0.0	12.1 (1)	8.0 (1)	34.6 (2)	35.6 (1)	30.8 (2)	18.3 (2)	14.9 (3)	10.4 (2)	14.7 (3)	30.0 (5)	19.9 (3)	14.3 (2)	14.4 (8)
TOTAL UNDAMAGED + DAMAGED	1214.7	1106.0	1118.4	1785.5	2767.4	1759.9	767.8	568.4	488.9	426.3	634.5	623.9	630.9	189.1

[a]Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-14
cont'd

DENSITY (no./m³) AND PERCENTAGE COMPOSITION (%) OF MAJOR ZOOPLANKTON TAXA
ST. LUCIE PLANT
6 DECEMBER 1978

	Station and depth[a]													
	11	12	0		1		2		3		4		5	
Taxon	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
UNDAMAGED														
Protozoa		1.1 (<1)										6.7 (<1)		6.0 (<1)
Coelenterata	1.2 (1)		9.4 (1)	19.1 (1)			23.4 (1)				6.8 (1)	20.2 (1)	49.8 (1)	6.0 (<1)
Ctenophora										10.9 (1)				
Mollusca	13.5 (7)	4.3 (1)		57.1 (3)	87.8 (2)	259.1 (5)	17.6 (1)	17.8 (1)	150.3 (2)	32.7 (2)	6.8 (1)	33.7 (2)	24.9 (1)	53.7 (1)
Polychaeta	4.9 (2)			9.5 (1)	6.8 (<1)	7.4 (<1)						6.7 (<1)	41.5 (1)	23.9 (1)
Crustacea														
nauplii			25.1 (3)	4.8 (<1)	13.5 (<1)	44.4 (1)	17.6 (1)	8.9 (<1)	64.4 (1)		1.7 (<1)	13.5 (1)	8.3 (<1)	
cladocera														
ostracoda	1.2 (1)			23.8 (1)	13.5 (<1)	7.4 (<1)				21.8 (1)		87.7 (5)		
copepoda	34.3 (17)	102.0 (34)	551.9 (62)	1149.8 (67)	3193.7 (84)	4702.8 (86)	2582.9 (91)	2630.2 (77)	5302.7 (86)	1310.8 (72)	377.4 (57)	1167.0 (68)	3010.8 (69)	2545.9 (69)
cirripedia (barnacle) nauplii	55.2 (28)	102.0 (34)			27.0 (1)	7.4 (<1)					1.7 (<1)			
decapoda	2.4 (1)	1.1 (<1)	3.1 (<1)	237.7 (14)	33.9 (1)	162.8 (3)		363.2 (11)	21.5 (<1)	163.8 (9)	10.2 (2)	154.9 (9)	431.4 (10)	697.6 (19)
others	6.1 (3)	13.0 (4)			6.8 (<1)	7.4 (<1)								
Chaetognatha			9.4 (1)	4.8 (<1)	108.1 (3)	37.0 (1)	23.4 (1)	17.8 (1)	42.9 (1)	10.9 (1)	8.5 (1)	26.9 (2)	107.8 (2)	6.0 (<1)
Echinodermata				4.8 (<1)									8.3 (<1)	
Chordata														
urochordata	1.2 (1)	5.4 (2)	6.3 (1)	23.8 (1)	13.5 (<1)	29.6 (1)	17.6 (1)	17.8 (1)	300.5 (5)	98.3 (5)	3.4 (1)	67.5 (4)	431.3 (10)	23.9 (1)
fish								8.9 (<1)						
Eggs	78.4 (39)	72.7 (24)	279.1 (31)	166.3 (10)	290.3 (8)	207.4 (4)	146.4 (5)	371.9 (11)	257.6 (4)	174.8 (10)	249.9 (38)	134.9 (8)	248.8 (6)	310.0 (8)
Miscellaneous	1.2 (1)	1.1 (<1)	3.1 (<1)	4.8 (<1)		7.4 (<1)						6.7 (<1)		
SUBTOTAL UNDAMAGED	199.6	302.7	887.4	1706.3	3794.9	5480.1	2828.9	3436.5	6139.9	1824.0	666.4	1726.4	4362.9	3673.0
SUBTOTAL DAMAGED	0.0	8.7 (3)	9.4 (1)	23.9 (1)	94.6 (2)	51.8 (1)	41.0 (1)	70.9 (2)	193.2 (3)	32.7 (2)	11.9 (2)	26.9 (2)	174.2 (4)	77.6 (2)
TOTAL UNDAMAGED + DAMAGED	199.6	311.4	896.8	1730.2	3889.5	5531.9	2869.9	3507.4	6333.1	1856.7	678.3	1753.3	4537.1	3750.6

[a]Ø = Oblique; S = Surface; B = Bottom.

Table 2.2A-15

RESULTS OF ZOOPLANKTON BIOMASS ANALYSIS[a]
ST. LUCIE PLANT
MARCH-NOVEMBER 1976

	Station and depth[b]													
	11	12	0		1		2		3		4		5	
Date	Ø	Ø	S	B	S	B	S	B	S	B	S	B	S	B
26 MAR	0.390	0.096	0.004	1.122	0.864	0.175	1.335	16.752	0.887	0.760	6.496	0.700	3.282	1.223
21 APR	0.093	N.A.[c]	0.137	0.485	0.185	N.A.[c]	0.432	1.465	1.048	6.633	0.405	1.699	N.A.[c]	1.665
12 MAY	0.218	0.612	0.169	1.724	0.963	1.045	0.319	0.118	1.560	4.793	0.682	0.127	0.169	1.274
8 JUN	0.089	0.618	0.093	1.697	0.378	0.110	0.157	0.661	0.466	0.771	0.167	0.447	0.173	0.207
14 JUL	0.111	0.053	1.454	1.849	5.983	8.696	0.380	2.734	0.217	1.167	0.178	5.913	0.414	1.059
11 AUG	0.827	0.279	0.744	0.015	1.151	0.828	0.813	7.006	6.119	2.026	0.891	4.984	1.113	1.482
14 SEP	3.559	1.079	0.484	0.453	0.533	0.121	0.779	3.103	1.523	4.410	0.998	2.390	2.296	4.106
15 OCT	0.187	0.591	0.183	2.686	1.903	1.525	1.049	0.601	0.669	2.942	0.449	0.922	0.759	2.507
10 NOV	0.145	0.795	1.230	1.139	0.894	0.672	0.290	0.304	0.446	0.974	0.391	3.473	0.171	0.926
Station $\bar{x}$	0.624	0.515	0.499	1.241	1.428	1.646	0.617	3.638	1.437	2.719	1.184	2.280	1.047	1.605

[a] Ash-free dry weight expressed in $g/m^3 \times 10^{-2}$.

[b] Ø = Oblique; S = Surface; B = Bottom.

[c] Data not available.

Table 2.2A-15
cont'd

RESULTS OF ZOOPLANKTON BIOMASS ANALYSIS[a]
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

	Station and depth[b]										
	11	12	0			1			2		
	Ø	Ø	S	B	x̄	S	B	x̄	S	B	x̄
25 JAN	1.28	4.05	6.00	1.58	3.79	15.83	1.50	8.67	14.24	3.49	8.87
15 FEB	4.17	13.29	10.97	6.13	8.55	32.08	16.26	24.17	1.87	22.54	12.21
11 MAR	2.62	9.22	21.07	19.45	20.26	7.66	7.66	7.66	26.92	374.26	200.59
19-20 APR[c]	2.02	6.07	16.17	16.03	16.10	15.79	13.87	14.83	15.34	27.06	21.20
10 MAY	1.72	5.46	3.51	27.27	15.39	42.81	17.69	30.25	4.33	35.38	19.86
14 JUN	1.59	4.20	7.67	16.99	12.33	16.85	58.70	37.78	2.12	37.94	20.03
12 JUL	4.28	7.93	48.04	41.12	44.58	50.84	89.99	70.42	60.80	46.95	53.88
23 AUG	2.13	5.18	16.51	23.95	20.23	28.26	20.42	24.34	14.89	NA[d]	NA[d]
13 SEP	4.03	3.72	17.91	22.72	20.31	19.36	26.78	23.07	27.45	26.53	26.99
11-19 OCT[e]	6.62	12.88	3.60	0.85	2.23	10.84	38.22	24.50	7.92	2.44	5.18
2 NOV	2.22	4.21	5.24	5.12	5.18	36.12	40.41	38.27	3.38	11.39	7.39
1 DEC	0.84	1.22	5.63	11.49	8.56	11.34	14.43	12.89	31.66	16.07	23.87
MEAN	2.79	6.45	13.53	16.06	14.79	23.98	28.83	26.40	17.58	54.91	36.37

	Station and depth[b]								
	3			4			5		
	S	B	x̄	S	B	x̄	S	B	x̄
25 JAN	4.15	9.86	7.01	13.40	2.55	7.98	5.95	3.83	4.89
15 FEB	23.78	38.49	31.14	15.25	1.72	8.49	12.93	41.25	27.09
11 MAR	48.35	19.73	34.04	19.22	11.82	15.52	86.33	18.76	52.55
19-20 APR[c]	19.12	22.95	21.04	13.09	14.48	13.79	16.18	13.44	14.81
10 MAY	3.42	17.37	10.40	7.00	38.29	22.65	4.44	24.40	14.42
14 JUN	12.86	27.44	20.15	2.96	24.69	13.83	25.33	70.79	48.06
12 JUL	30.80	105.70	68.25	NA[d]	46.39	NA[d]	223.47	16.58	120.03
23 AUG	29.81	NA[d]	NA[d]	8.79	NA[d]	NA[d]	29.24	19.42	24.33
13 SEP	19.20	24.49	21.85	15.24	28.22	21.73	24.26	51.63	37.95
11-19 OCT[e]	2.41	1.47	1.94	2.91	4.08	3.50	3.70	6.19	5.00
2 NOV	8.37	11.86	10.12	11.21	10.09	10.65	3.86	14.13	9.00
1 DEC	10.37	10.98	10.68	17.20	21.38	19.29	7.36	85.87	46.62
MEAN	17.72	26.39	21.51	11.48	18.52	13.74	36.92	30.52	33.73

[a]Ash-free dry weight expressed in mg/m^3.

[b]Ø = Oblique; S = Surface; B = Bottom.

[c]Stations 11 and 12 collected 20 APR; all other stations collected 19 APR.

[d]Data not available.

[e]Stations 11 and 12 collected 11 OCT; all other stations collected 19 OCT.

Table 2.2A-15
cont'd

RESULTS OF ZOOPLANKTON BIOMASS ANALYSIS
ST. LUCIE PLANT
JANUARY-DECEMBER 1978

	Station and depth[a]																			
	11	12	0			1			2			3			4			5		
Date	Ø	Ø	S	B	X̄	S	B	X̄	S	B	X̄	S	B	X̄	S	B	X̄	S	B	X̄
23 JAN	1.89	2.24	14.63	14.48	14.56	17.37	2.55	9.96	9.42	11.76	10.59	4.71	21.90	13.31	10.29	13.14	11.72	31.13	25.85	28.49
13 FEB	2.66	5.05	8,86	7.65	8.26	21.96	36.79	29.38	3.47	5.13	4.30	9.25	6.49	7.87	1.76	11.40	6.58	2.17	5.71	3.94
15 MAR	8.23	6.79	2.01	4.33	3.17	17.66	5.99	11.83	1.75	35.03	18.39	4.56	33.05	18.81	2.53	39.38	20.96	2.92	13.31	8.12
25 APR	35.91	1.28	12.14	9.16	10.65	4.74	8.22	6.48	8.63	15.31	11.97	5.22	31.36	18.29	7.97	16.50	12.24	32.72	7.30	20.01
17 MAY	14.91	0.75	1.32	3.33	2.33	1.27	9.94	5.61	0.98	18.12	9.55	2.92	35.80	19.36	2.46	5.45	3.96	2.82	20.86	11.84
21 JUN	2.68	3.71	26.38	10.18	18.28	15.80	31.61	23.71	32.02	10.85	21.44	10.70	17.96	14.33	9.86	13.08	11.47	12.74	40.50	26.62
12 JUL	5.34	6.82	11.54	26.31	18.93	-[b]	25.69	-	25.74	52.58	39.16	5.56	26.29	15.93	54.70	32.21	43.46	55.63	57.13	56.38
8 AUG	0.65	2.64	7.78	20.59	14.19	95.52	94.83	95.18	24.21	33.54	28.88	4.09	26.52	15.31	23.10	93.40	58.25	23.94	47.66	35.80
12 SEP	1.50	4.71	11.18	23.56	17.37	24.86	31.72	28.29	26.58	43.31	34.95	19.22	25.55	22.39	31.04	32.79	31.92	19.72	55.57	37.65
3 OCT	1.78	2.29	10.63	18.44	14.54	21.42	37.64	29.53	12.06	44.11	28.09	18.50	41.83	30.17	9.75	17.04	13.40	71.41	54.44	62.93
7 NOV	0.64	0.75	5.13	4.18	4.66	15.32	6.46	10.89	2.28	10.04	6.16	2.30	2.42	2.36	2.61	2.73	2.67	2.18	0.87	1.53
6 DEC	0.32	1.21	7.76	32.93	20.35	19.50	36.50	28.00	10.97	41.19	26.08	75.35	4[illegible].96	62.16	2.34	18.75	10.55	39.34	30.57	34.96

[a]Ø = Oblique tow; S = Surface; B = Bottom.

[b]Anomalous data.

Table 2.2A-16

STATISTICAL COMPARISON OF UNDAMAGED ZOOPLANKTON
OFFSHORE SURFACE
ST. LUCIE PLANT
MARCH 1976 - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS X YEARS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	17	40.80057931	2.40003403
ERROR	178	201.35069815	1.13118373
CORRECTED TOTAL	195	242.15127746	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	17.08356846	3.02	0.0122
YEAR	2	17.74478628	7.84	0.0005
STATION*YEAR	10	5.97222457	0.53	0.8689

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=178 MS=1.13118

GROUPING		MEAN	N	STATION
	A	7.912775	32	1
B	A	7.493218	32	5
B		7.294199	33	2
B		7.205531	33	6
B		7.127263	33	3
B		7.006175	33	0

DUNCAN'S MULTIPLE RANGE TEST: YEARS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=178 MS=1.13118

GROUPING	MEAN	N	YEAR
A	7.625795	71	77
A	7.422713	66	78
B	6.890759	59	76

Table 2.2A-16
cont'd

STATISTICAL COMPARISON OF UNDAMAGED ZOOPLANKTON
OFFSHORE BOTTOM
ST. LUCIE PLANT
JANUARY - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	5	2.34707939	0.46941588
ERROR	60	65.60962720	1.09349379
CORRECTED TOTAL	65	67.95670660	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	2.34707939	0.43	0.0275

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=60 MS=1.09349

GROUPING	MEAN	N	STATION
A	8.042265	11	2
A	7.883732	11	4
A	7.755644	11	5
A	7.727750	11	0
A	7.701945	11	1
A	7.422246	11	3

Table 2.2A-16
cont'd

ANALYSIS OF VARIANCE FOR ZOOPLANKTON DENSITY
ST. LUCIE PLANT
MARCH-NOVEMBER 1976[a]

Source	Degree of freedom	Sum of squares	Mean square	F values
Stations	7	17411775.99	2487396.57	0.8538
Months	7	53555876.59	7650839.51	2.6261*
Error	49	142752812.8	2913322.71	
TOTAL	63	213720465.4		

[a] September data not included in analysis.
* Significant at $\alpha = .05$.

Table 2.2A-16
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN ZOOPLANKTON COUNTS
ST. LUCIE PLANT
MARCH-NOVEMBER 1976

Month (Mean)	APR (1306.8)	MAY (442.7)	JUN (1151.5)	JUL (2486.9)	AUG (3606.5)	SEP (7706.5)	OCT (2389.1)	NOV (2163.6)
MAR (1618.5)	311.7	1175.8	476.0	868.4	1988.0	6088.0*	770.6	545.1
APR (1306.8)		864.1	155.3	1180.1	2299.7	6399.7*	917.7	856.8
MAY (442.7)			708.8	2044.2	3163.8*	7263.8*	1946.4	1720.9
JUN (1151.5)				1335.4	2455.0	6555.0*	1237.6	1012.1
JUL (2486.9)					1119.6	5219.6*	2097.8	323.3
AUG (3606.5)						4100.0*	1217.4	1442.9
SEP (7706.5)							5317.4*	5542.9*
OCT (2389.1)								225.5

* Significant at α = .05, Tukey's HSD = 2703.5.

Table 2.2A-16
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN ZOOPLANKTON DENSITIES (No./m^3)
UNDAMAGED ZOOPLANKTERS, OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Month (Mean)	FEB (3675.5)	MAR (7160.2)	APR (2730.1)	MAY (2289.2)	JUN (2923.6)	JUL (6867.6)	AUG (3727.0)	SEP (3194.0)	OCT (1731.9)	NOV (3383.9)	DEC (742.3)
JAN (1715.3)	1960.2	5444.9*	1014.8	573.9	1208.3	5152.3*	2011.7	1478.7	16.6	1668.6	973.0
FEB (3675.5)		3484.7	945.4	1386.3	751.9	3192.1	51.5	481.5	1943.6	291.6	2933.2
MAR (7160.2)			4430.1	4871.0*	4236.6	292.6	3433.2	3966.2	5428.3*	3776.3	6417.9*
APR (2730.1)				440.9	193.5	4137.5	996.9	463.9	998.2	653.8	1987.8
MAY (2289.2)					634.4	4578.4*	1437.8	904.8	557.3	1094.7	1546.9
JUN (2923.6)						3944.0	803.4	270.4	1191.7	460.3	2181.3
JUL (6867.6)							3140.6	3673.6	5135.7*	3483.7	6125.3*
AUG (3727.0)								533.0	1995.1	343.1	2984.7
SEP (3194.0)									1462.1	189.9	2451.7
OCT (1731.9)										1652.0	989.6
NOV (3383.9)											2641.6

*Significant at α = .05, Tukey's HSD = 4497.

Table 2.2A-16
cont'd

ANALYSIS OF VARIANCE FOR ZOOPLANKTON DENSITIES (No./m^3)
UNDAMAGED ZOOPLANKTERS, OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT

January-December 1977				
Source	Degrees of freedom	Sum of Squares	Mean Square	F
Month (M)	11	4913657 x 10^2	4466960 x 10^1	4.29*
Station (S)	5	4678502 x 10^1	9357003	0.90
Depth (D)	1	7086271 x 10^1	7086270 x 10^1	6.81*
M x S	55	4533187 x 10^2	8242158	0.79
M x D	11	1118091 x 10^2	1016446 x 10^1	0.98
S x D	5	3589220 x 10^1	7178439	0.69
Error	55	5722304 x 10^2	1040419 x 10^1	
Total	143	1782264 x 10^3		

March 1976-December 1977[a]				
Source	Degrees of freedom	Sum of Squares	Mean Square	F
Year (Y)	1	1447572 x 10^2	1447572 x 10^2	18.57*
Month (M)	7	3146341 x 10^2	4494771 x 10^1	5.77*
Station (S)	5	5491369 x 10^1	1098274 x 10^1	1.41
Depth (D)	1	1177965 x 10^2	1177965 x 10^2	15.11*
Y x M	7	1548944 x 10^2	2212776 x 10^1	2.84*
Y x S	5	2414415 x 10^1	4828830	0.62
Y x D	1	6248683	6248683	0.80
M x S	35	2562377 x 10^2	7321078	0.94
M x D	7	5639042 x 10^1	8055773	1.03
S x D	5	2660252 x 10^1	5320503	0.68
Y x M x S	35	3393227 x 10^2	9694933	1.24
Y x M x D	7	5109795 x 10^1	7299707	0.94
Y x S x D	5	6274066 x 10^1	1254813 x 10^1	1.61
M x S x D	35	3947313 x 10^2	1127804 x 10^1	1.45
Error	35	2728689 x 10^2	7796253	
Total	191	2277381 x 10^3		

[a]Analysis includes March-August, October, and November, 1976 and 1977.

*Significant at α = .05.

Table 2.2A-16
cont'd

DIFFERENCES BETWEEN MEAN ZOOPLANKTON DENSITIES (No./m^3)
UMDAMAGED ZOOPLANKTERS, OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977[a]

Annual		
1976	1977	Difference
2115.1	3851.7	1736.6*

Monthly							
Month (Mean)	[illegible] (215[illegible]	MAY (1384.3)	JUN (2166.4)	JUL (5067.3)	AUG (4026.8)	OCT (1813.2)	NOV (2744.9)
MAR (4512.0)	23[illegible]	3127.7*	2345.6	555.3	485.2	2698.8*	1767.1
APR (2152.1)		767.8	14.3	2915.2*	1874.7	338.9	592.8
MAY (1384.3)			782.1	3683.0*	2642.5*	428.9	1360.6
JUN (2166.4)				2900.9*	1860.4	353.2	578.5
JUL (5067.3)					1040.5	3254.1*	2322.4
AUG (4026.8)						2213.6	1281.9
OCT (1813.2)							931.7

[a]Analysis includes March-August, October, and November, 1976 and 1977.

*Significant at α = .05, Tukey's HSD = 2599.

Table 2.2A-16
cont'd

DIFFERENCES BETWEEN MONTHLY MEAN ZOOPLANKTON BIOMASS (mg/m^3)
OFFSHORE STATIONS (0-5)
ST. LUCIE PLANT
MARCH 1976 - DECEMBER 1977[a]

Month (Mean)	MAY (14.8)	JUN (14.9)	OCT (10.3)	NOV (11.3)
MAR (41.6)	26.8*	26.7*	31.3*	30.3*
MAY (14.8)		1.0	4.5	3.5
JUN (14.9)			4.6	3.6
OCT (10.3)				1.0

[a]Analysis includes March, May, June, October, and November, 1976 and 1977.

*Significant at $\alpha = .05$, Tukey's HSD = 17.65.

Table 2.2A-16
cont'd

STATISTICAL COMPARISON OF UNDAMAGED ZOOPLANKTON
OFFSHORE SURFACE
ST. LUCIE PLANT
JANUARY - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	5	10.77425225	2.15485045
ERROR	60	83.42900957	1.39048349
CORRECTED TOTAL	65	94.20326182	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	10.77425225	1.55	0.1873

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=60 MS=1.39048

GROUPING		MEAN	N	STATION
	A	8.199254	11	1
B	A	7.630394	11	5
B	A	7.303680	11	2
B	A	7.262677	11	4
B	A	7.220022	11	0
B		6.920253	11	3

Table 2.2A-17

STATISTICAL COMPARISON OF ZOOPLANKTON BIOMASS
OFFSHORE SURFACE
ST. LUCIE PLANT
MARCH 1976 - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS X YEARS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	17	25799.61557209	1517.55562777
ERROR	177	175996.15092278	994.33983572
CORRECTED TOTAL	194	201796.76659467	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	12196.07933766	2.45	0.0351
YEAR	2	3892.04228806	1.96	0.1443
STATION*YEAR	10	9710.49404617	0.98	0.4655

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=177 MS=994.34

GROUPING		MEAN	N	STATION
	A	31.300625	32	1
B	A	25.195312	32	5
B		13.075455	33	3
B		12.647576	33	2
B		12.430312	32	4
B		9.778788	33	0

DUNCAN'S MULTIPLE RANGE TEST: YEARS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=177 MS=994.34

GROUPING	MEAN	N	YEAR
A	20.371515	56	78
A	20.323652	71	77
A	10.167241	58	76

Table 2.2A-17
cont'd

STATISTICAL COMPARISON OF ZOOPLANKTON BIOMASS
OFFSHORE BOTTOM
ST. LUCIE PLANT
MARCH 1976 - NOVEMBER 1978

ANALYSIS OF VARIANCE: STATIONS X YEARS

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE
MODEL	17	17503.80323270	1029.63548423
ERROR	176	206511.96778586	1173.35345333
CORRECTED TOTAL	193	224015.77101856	

SOURCE	DF	TYPE I SS	F VALUE	PR > F
STATION	5	10100.80388863	1.72	0.1308
YEAR	2	1996.70041472	0.85	0.4285
STATION*YEAR	10	5406.29692934	0.46	0.9133

DUNCAN'S MULTIPLE RANGE TEST: STATIONS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=176 MS=1173.35

GROUPING		MEAN	N	STATION
	A	37.925937	32	2
B	A	26.552812	32	1
B	A	25.465789	33	5
B	A	25.404062	32	3
B	A	21.599687	32	4
B		13.591818	33	0

DUNCAN'S MULTIPLE RANGE TEST: YEARS

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=176 MS=1173.35

GROUPING	MEAN	N	YEAR
A	29.029423	59	77
A	24.074545	56	78
A	21.432034	59	76

Table 2.2A-17
cont'd

ANALYSIS OF VARIANCE[a] FOR ZOOPLANKTON BIOMASS
ST. LUCIE PLANT
MARCH-NOVEMBER 1976[b]

Source	Degree of freedom	Sum of squares	Mean squares	F values
Stations	7	21.878266	3.125466571	1.206008414
Months	7	27.358464	3.908352	1.508096564
Error	49	126.987391	2.591579408	
TOTAL	63	176.224121		

[a] Critical F value for analysis of variance at α = .05 with 7 df = 2.25.

[b] April data not included in analysis.

Table 2.2A-17
cont'd

ANALYSIS OF VARIANCE FOR ZOOPLANKTON BIOMASS (mg/m^3)
ST. LUCIE PLANT
JANUARY-DECEMBER 1977

Intake and Discharge Stations

Source	Degrees of freedom	Sum of Squares	Mean Square	F
Month	11	143.2833	13.02576	3.72*
Station	1	80.3366	80.33655	22.9*
Error	11	38.4746	3.49769	
Total	23	262.0945		

Offshore Stations

Source	Degrees of freedom	Sum of Squares	Mean Square	F
Month (M)	9	20148.17	2238.686	1.73
Station (S)	5	7532.92	1506.584	1.16
Depth (D)	1	3978.60	3978.603	3.08
M x S	45	54166.39	1203.698	0.93
M x D	9	5079.31	564.368	0.43
S x D	5	6112.52	1222.505	0.96
Error	45	58199.38	1293.319	
Total	119	155217.29		

*Significant at α = .05.