

## CLIMATE

Metropolitan Dade County has what is classified as a "sub-tropical marine" climate. It is interesting to note that almost half of the land area in the continental United States so blessed is within Dade's borders.

To qualify as "tropical," a climate must have the proper temperature and rainfall conditions to permit tropical vegetation such as the coconut palm to mature and bear fruit. The prefix "sub" means that it is just a notch below a true tropical climate, inasmuch as killing frosts, although rare, do occur occasionally. The appendage "marine" means, of course, near the water.



One of the factors responsible for the wonderfully mild climate is that great ocean-river called the Gulf Stream. This 50 mile wide, warm water current lies just a couple of miles off Miami Beach. Also, the Trade Winds, blowing up from the southeast, warm the area in winter and cool it in summer. The major ingredients of Dade County's climate are identified in the graphs and diagrams at right which show month to month variations in temperature, rainfall, humidity, sky cover, and a comparison between wind patterns in winter and summer. The illustrations indicate that south Florida's climate has seasons too, although changes are much more subtle than in northern areas.

The daily temperature range is about 20 degrees with the average in the high 60's during the winter and in the middle 80's during the summer. Temperatures at Miami Beach fluctuate within an even narrower range.

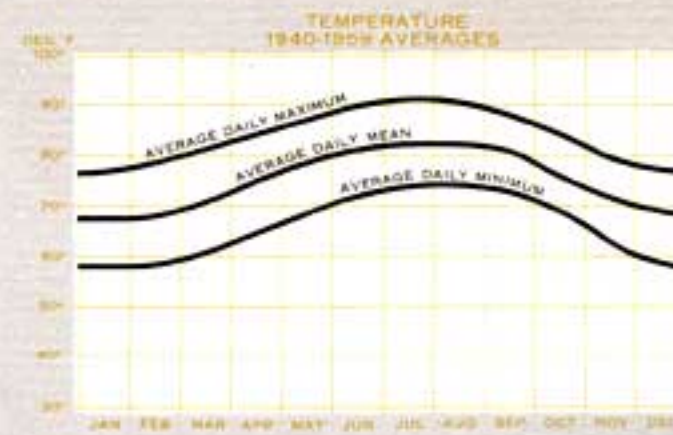
The average annual precipitation for the area measures between 50 and 60 inches. The rainy season lasts from June through October with September and October as the months of most rainfall. Most of the summer rains occur in the form of heavy but short thunderstorms. The winter months—November through March—are usually quite dry. The rainfall pattern is of critical importance where water control measures, such as Everglades drainage and salt water intrusion, are concerned. Water control measures are discussed later in this report.

Dade County, as an oceanside land mass with prevailing sea breezes, has a relatively high humidity which averages between 60 and 85 percent.

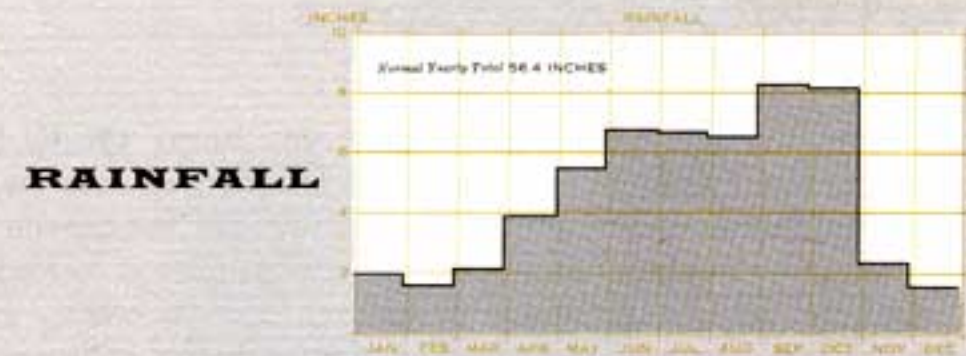
Even though Dade County has a large amount of rainfall, over 60% of the days are classified as either clear or partly cloudy. The sky cover diagram at right shows that most of the clear days occur during the drier winter months and, therefore, provide a boon to the area's tourist industry.

Winds blow from the east or southeast about half the time keeping temperatures lower than would otherwise be the case during the summer and higher than otherwise in the winter. In general, winds clock from a northerly direction more in the fall and winter, although an easterly clocking still predominates during these months. South Florida seldom gets a breeze from the west or southwest in any season. Average velocities vary from 8 to 15 mph regardless of direction.

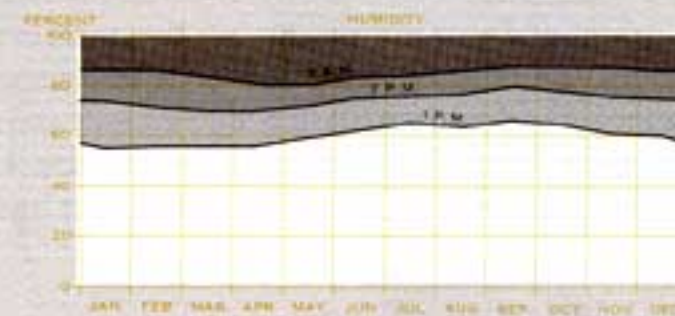
Hurricanes, violent cyclical storms with winds attaining speeds of 75 mph and sometimes much higher, occasionally strike the area and cause widespread damage especially to vegetation. The months of greatest frequency are September and October. Hurricanes of note were those of September, 1926; November, 1935; September, 1945 and October, 1950. The last hurricane was in September, 1960.



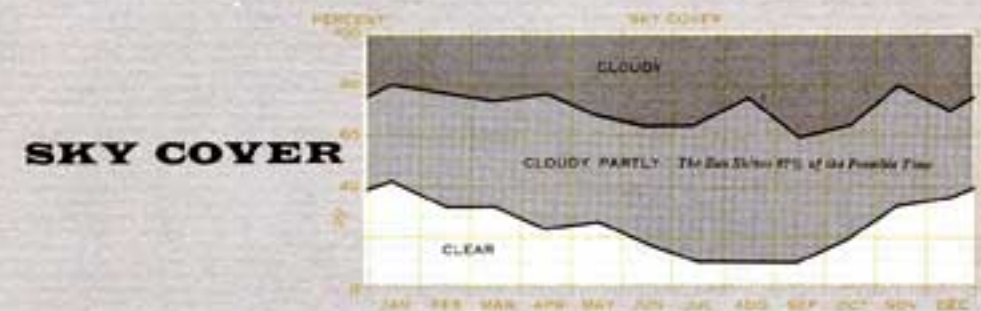
**TEMPERATURE**



**RAINFALL**



**HUMIDITY**



**SKY COVER**



## CLIMATE AND LIVING CONDITIONS

Needless to say, South Florida's warm and balmy climate has a marked effect on local living conditions. People dress and live more casually than in other parts of the country and they spend more time out of doors. Houses are designed to provide a maximum of indoor-outdoor living. Screened porches, Florida rooms, patios, tropical gardens, sliding glass doors and barbecue grills are popular features of many south Florida homes. Private swimming pools, screened and lighted for night use, are quite common. The enclosed garage has been replaced by the open carport and air conditioning and nominal heating facilities are fast becoming an integral part of the home. Plants and lawns, the pride of many south Floridians, require frequent cutting and trimming, especially throughout the warm season.



## CLIMATE AND THE ECONOMY

Climatic factors influence the economics of most Metropolitan Dade County industries — particularly those with national markets. The reasons are obvious in the case of tourism (hotels, motels, airlines, restaurants, horse and dog racing, jai alai, ocean fishing, night clubs, etc.) and the retirement or semi-retirement sectors of the economy. Climate also is a critical locational factor affecting the winter vegetable, tropical fruit, ornamental horticulture and cut-flower industries. It is doubtful whether the huge aircraft maintenance and overhaul complex, including major overhaul bases for four airlines, would be located at Miami International Airport were it not for the climate which permits outdoor work the year round and provides excellent testing conditions. Designs developed by both the garment and aluminum industries to suit the unique characteristics of the sub-tropic climate have found ready acceptance in national markets and these industries have grown to prominence as exporters.

For other sectors of the economy — home office activities, research, electronics, plastics, to name a few — the climate has attracted the businessman rather than the business. Our sub-tropical climate also has made it easy for industry to acquire scarce labor either locally or from outside the area, a factor which is expected to become increasingly important.

Of course, climate is not the only element influencing the development of industries in Dade County. Nevertheless, there is a definite and significant connection between climate and the critical local factors of production — particularly those involving human resources.

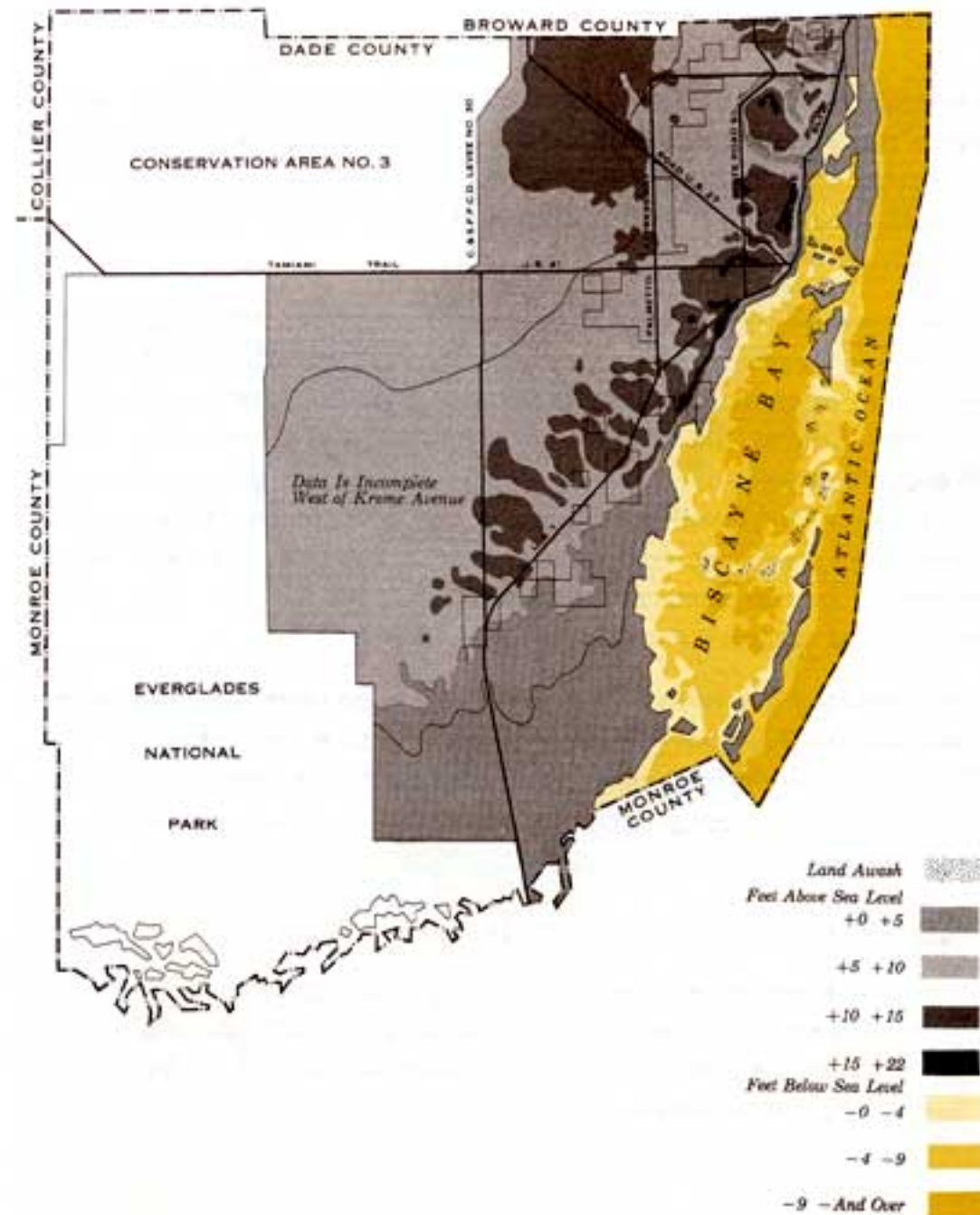
## TOPOGRAPHY, HYDROGRAPHY AND GEOLOGY

Metropolitan Dade County is low and very nearly flat. The Atlantic Ocean lies to the east of Miami Beach and other smaller Keys further south. In the beginning, Miami Beach was little more than a giant mangrove swamp and remained virtually uninhabited until the mangrove was cleared, bulkheads constructed and bay bottom sand was pumped in to create the island. Key Biscayne and Elliott Key to the south have a limestone base; however, many of the other Keys are still little more than swamps.

Biscayne Bay, an intracoastal arm of the Atlantic Ocean, separates Miami Beach and the other offshore Keys from the mainland. The Bay is one to three miles wide between Miami and Miami Beach and broadens to a maximum of nine miles between Elliott Key and the mainland.

The mainland west of the Bay is also low and very nearly flat. Highest elevations occur along a rock ridge which parallels the coast. U.S. Highway No. 1 follows this ridge very closely as far south as Homestead where they separate. The ridge continues on to the southwest where it tapers off into the Everglades while the highway heads south towards Monroe County and the Florida Keys. This is a modest ridge with a high point of 22 feet above sea level. Elevations decline almost imperceptibly to the west and the Everglades and more rapidly to the east and the Bay. The map at right shows the relative elevations of lands above and below mean sea level.

A broad massive river — the Everglades — flows very slowly from Lake Okeechobee south and southwest to the Bay of Florida. It does not appear to be a river, however, since the water flows beneath



TOPOGRAPHY & HYDROGRAPHY

the tops of the saw grass covering most of the vast area. Many years ago the Everglades extended as far east as the coastal ridge, but gradually the land was drained and the swamp pushed back to make room for farms, groves and cities. Today urbanization is continuing westward at a rapid pace.

Over a period of 50 years, a number of water control projects have succeeded in reclaiming large areas of developable land from the great sea of grass, but the Glades still cover the western two-thirds of Dade County. The southwest quarter of the County lies within Everglades National Park while the northwest quadrant is set aside as a water conservation district. As larger amounts of fresh water have been removed from the underlying rock strata, salt water intrusion has become a major problem. Forces are now being marshalled to combat this dangerous threat.

The combined elements of topography, geology and rainfall create a very delicate balance between fresh and salt water tables in south Florida and the utmost care must be taken to preserve this balance. Dade County's topography and hydrography has the following major land and water features:

- the Atlantic Ocean to the east
- Biscayne Bay, a shallow arm of the Ocean, separating the mainland from a string of offshore islands, the largest and northernmost of which contains Miami Beach

- general flatness of the land and a low oolitic limestone ridge paralleling the coast
- the Everglades which cover the western reaches of the County.

## **SURFACE SOILS**

Generally speaking, surface soils in Dade County can be classified into a few broad groupings. The offshore islands are covered by coastal sands, pumped-in bay bottom fill, and mangrove swamps over unclassified soils. The man-made islands and causeways in upper Biscayne Bay are constructed of pumped-in fill covered with a thin layer of black earth.

The mainland shore of the bay consists primarily of tidal marsh lands and mangrove swamps over unclassified soils, much of which has been stabilized with bay bottom fill. The coastal ridge, which varies from 5 to 10 miles in width, is oolitic limestone with a sandy overlay.

The southern part of the ridge is bisected by several glade and bay fingers which are low lands covered largely by marly soils. The northwest quarter and southeast portion of the Country contain peat and muck soils which vary from a few inches to several feet

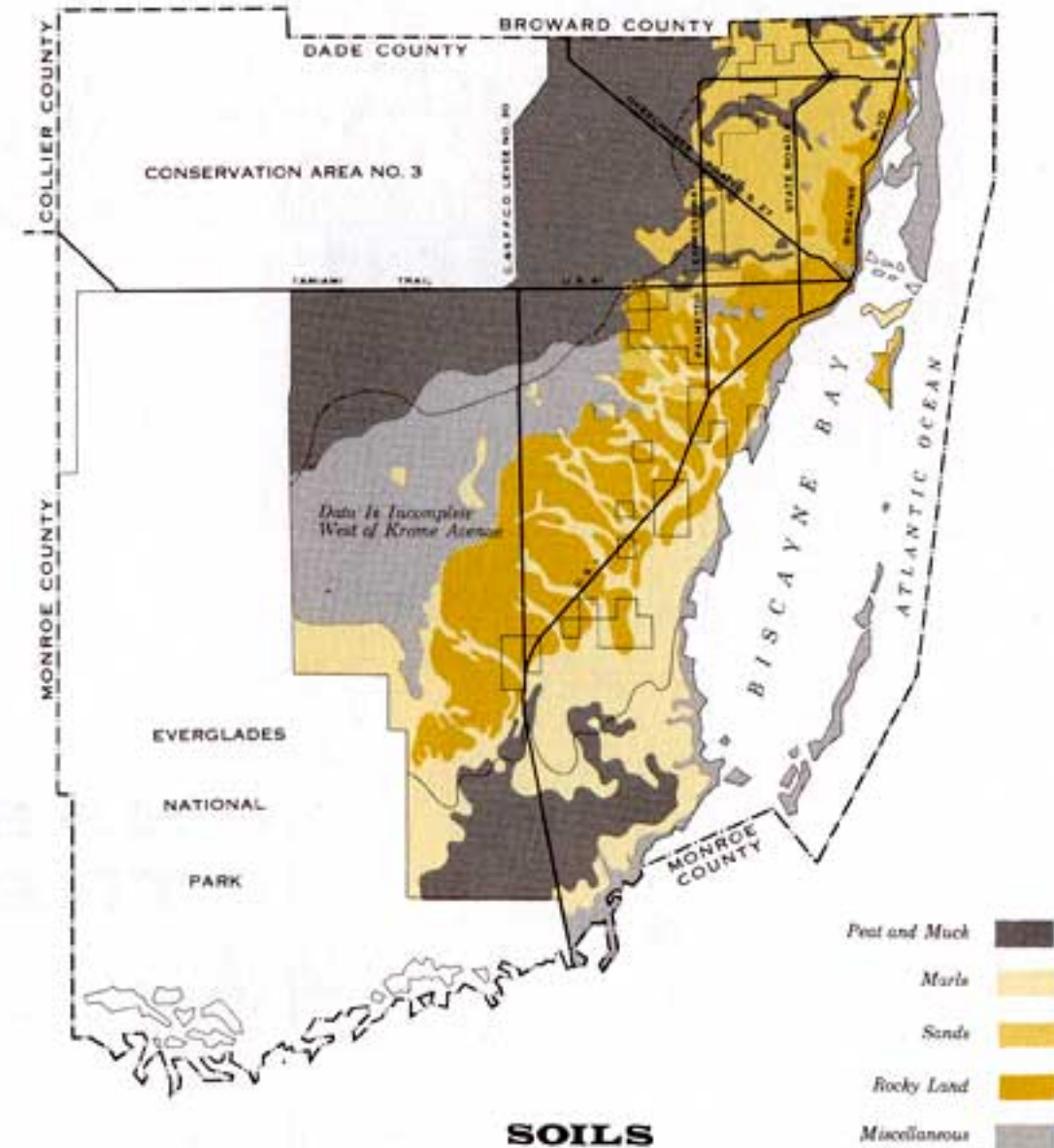
in depth. These insubstantial soils will shrink and blow away during abnormally dry weather.

Peat and muck must be replaced before the land can be put to urban use. Marl over peat covers much of the south Dade area except along the coast where tidal marl and mangrove swamps prevail.

The diagram at right illustrates the general soil types found in Metropolitan Dade County. The information was obtained from various maps and charts of the United States Soil Conservation Service.

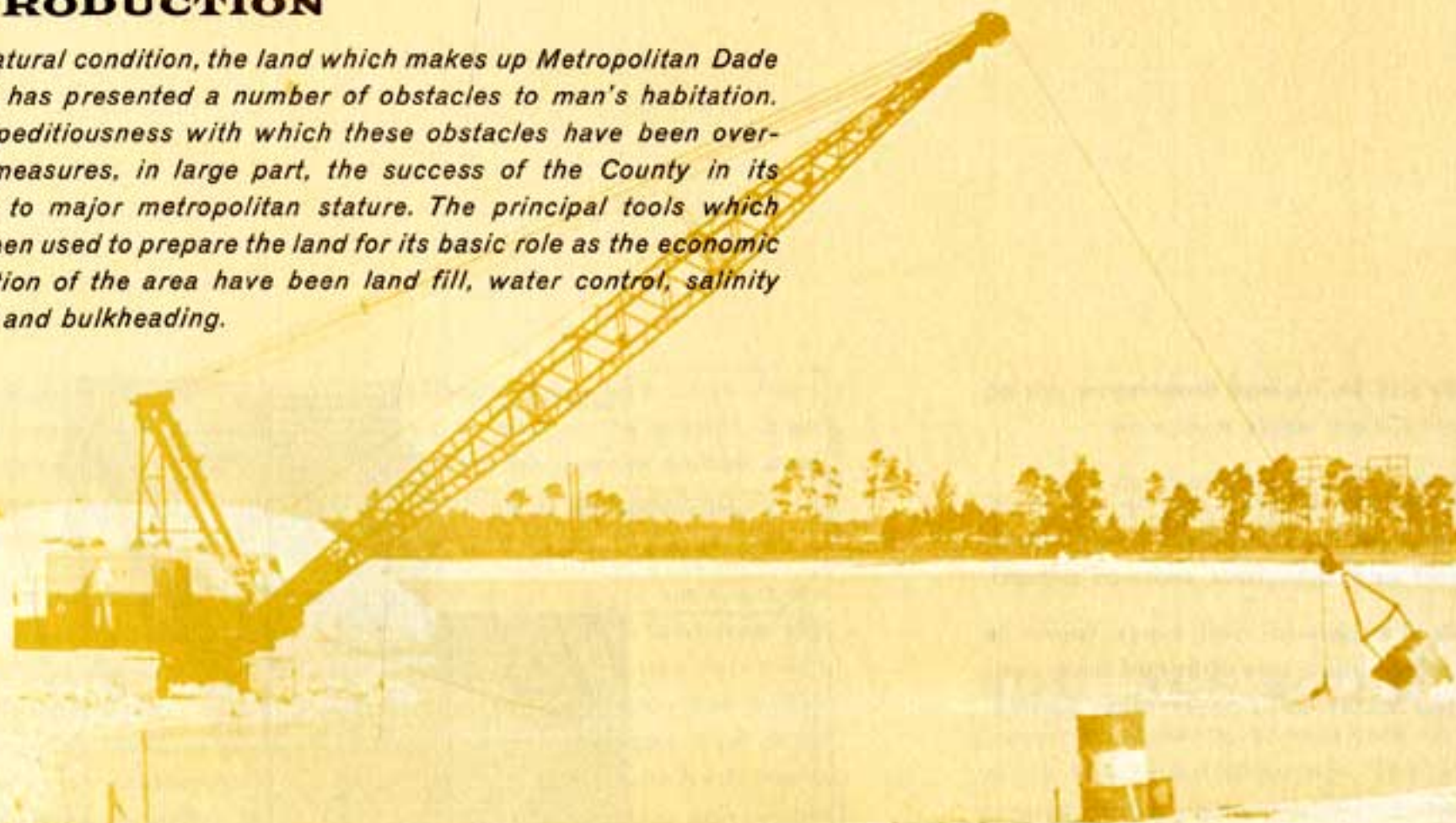
### SUB-STRATA

Under the sand, muck, peat and marl, which covers the surface of Dade County is a rock formation of Miami oolite. This soft porous limestone permits a rapid absorption of water, vertically and horizontally. Underlying the oolite is a layer of calcareous sandstone and limestone called the Tamiami Formation. It is one of the most permeable rock strata known and can hold about 20% of its volume in water. The Tamiami Formation, along with the upper layer of Miami oolite, forms what is termed the Biscayne Aquifer which serves as the source of the area's exceedingly large fresh water supply. The next lower rock stratum is called the Hawthorn Formation. It is composed of 400 to 500 feet of relatively impenetrable limestone and provides a solid base for the Biscayne Aquifer.



## **INTRODUCTION**

*In its natural condition, the land which makes up Metropolitan Dade County has presented a number of obstacles to man's habitation. The expeditiousness with which these obstacles have been overcome measures, in large part, the success of the County in its growth to major metropolitan stature. The principal tools which have been used to prepare the land for its basic role as the economic foundation of the area have been land fill, water control, salinity control and bulkheading.*

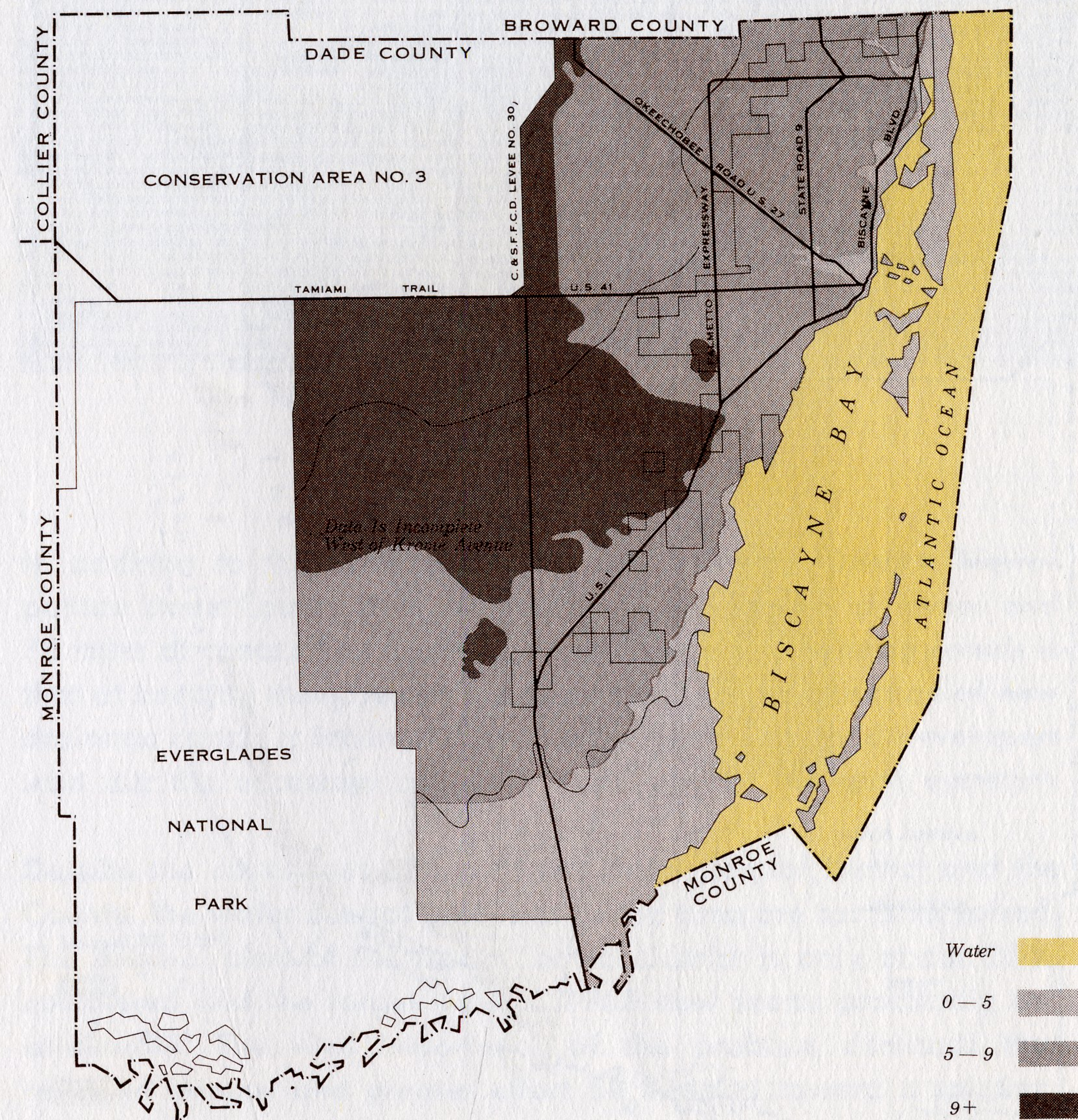


**MAN'S EFFORTS TO MODIFY  
THE NATURAL FEATURES**

## LAND FILL

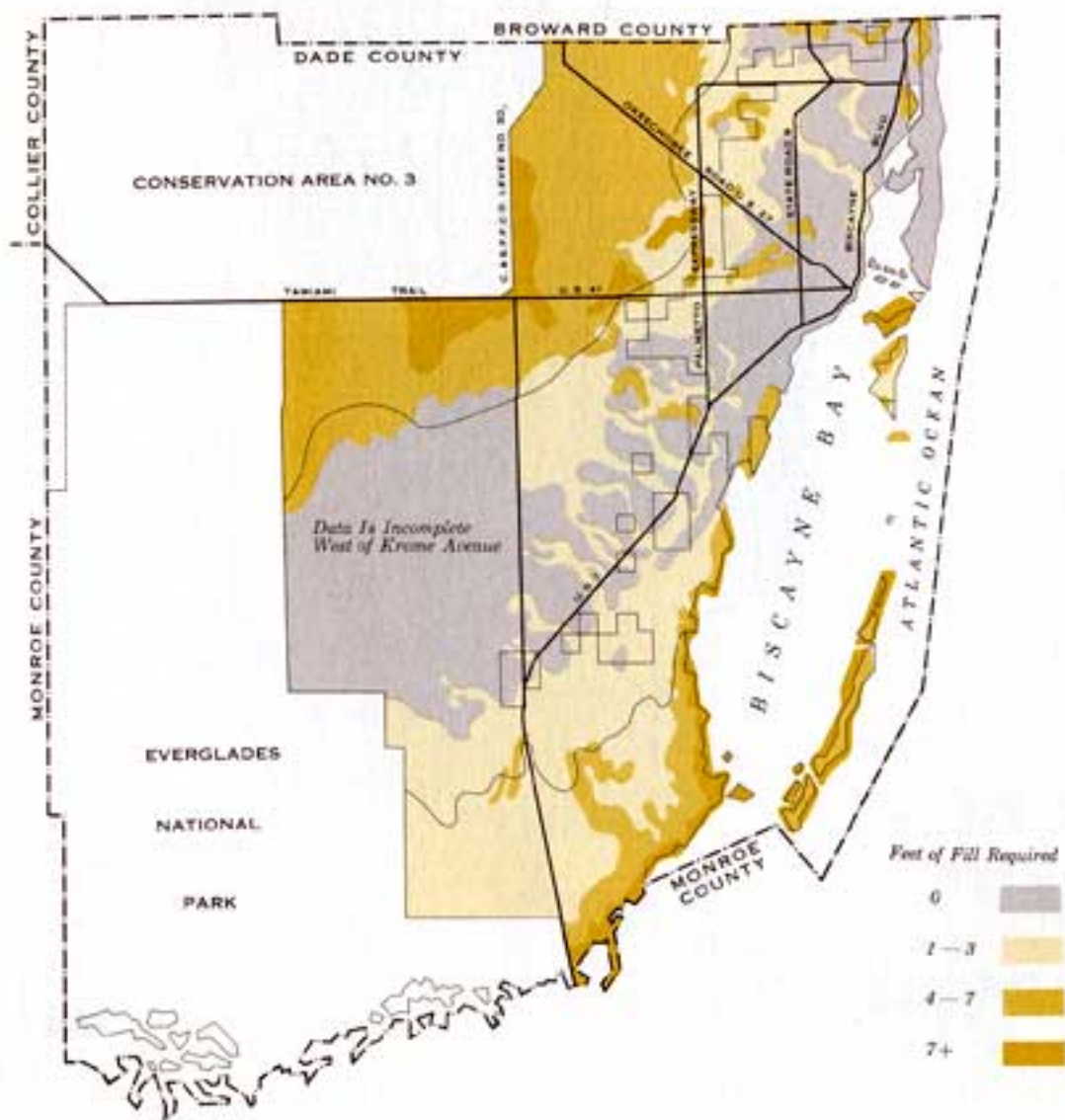
Only a relatively few years ago, much of what is now Metropolitan Dade County was marsh land, swamp land and bay bottom. Then a network of drainage canals was dug, the Miami River was deepened and widened, flood dikes were constructed and low lands were built up by pumping in fill from the bottom of shallow Biscayne Bay. A large part of the land within the City of Miami Beach and other island municipalities was created in that way. Sizeable sections of Hialeah also had to be filled in before development could take place.

Land fill requirements depend, of course, on topography and soil characteristics. In most instances, filling is essential to prevent flooding. The illustration at right shows the flood criteria for Metropolitan Dade County. The elevation requirements determine to what height the land must be filled to satisfy this flood criteria. In some sections, the land elevation may meet flood criteria but land fill is necessary because the surface soil is too soft to support building foundations. This soil must be scraped away and replaced by firmer material. Not infrequently the need for fill is based on both elevation and poor soil. The map on the next page shows the number of feet of fill required **today** to make certain areas suitable for urban development. This map is subject to change as drainage conditions are



**FLOOD CRITERIA**





**LAND FILL**

improved to permit a revision to the County's flood criteria. In creating this land fill map, natural ground levels, flood criteria, the depth of organic soils and the location of approved bulkhead lines were considered.

Filling land is an expensive operation. The cost varies according to where the source of fill is located (the County is dotted with lakes which have been formed by dredges scooping limestone rock from one area for use in another), the type and amount of equipment needed and the amount of surface soil which must be removed. As a rough average, the filling of land costs from \$1,200 to \$2,000 per foot per acre. Thus, if 3 feet of fill are necessary to raise a tract of land to a level required for proper flood control, about \$5,000 per acre is added to the effective price of the land to the developer.

The high cost of land has and is exercising great influence on the developmental patterns of the entire metropolitan area. If the cost of filling becomes large enough to push the price of filled land above the price of raw land which requires no fill, then sub-marginal lands will not be improved unless there are specific modifying circumstances. The current "Even Steven" point is estimated about 4 feet. In other words, if a particular tract needs 4 or more feet of fill, it becomes more expensive than comparable land which needs no fill. Thus, original topographic and soil characteristics of land are often modified to allow development in areas where natural elevations preclude building; however, this does not alter the fact that the original condition of the land is still a prime factor in determining patterns of community growth.

## WATER CONTROL

The need for water control in Metropolitan Dade County has arisen from the seemingly contradictory conditions of too much water and too little water — too much during the rainy seasons and too little during the dry. Nearly 60 inches of rain falls on the County yearly. More than 80% of it occurs in a 7 month period from April through October. The problem, then, is what to do with the excess water in the wet season and how to assure an adequate supply during the dry months. Hurricanes, of course, add to the necessity of water control by periodically deluging the area even beyond its normal surplus of autumn rainfall.

Because of Dade's flat terrain, gravity drainage of excess water is poor although the situation is helped considerably by the extremely porous soil and rock which covers most of the County. Approaches to water control are, therefore, based primarily on systems of canals, restraining levees, and dams.

The primary agency attacking the water control problem is the Central and Southern Florida Flood Control District, a regional agency operating in 18 counties in the southern and eastern portion of the Florida peninsula. The District is supported by the federal government (primarily through the Corps of Engineers), the state (through its Board of Conservation), and the participating counties. Property owners in these counties are assessed  $\frac{3}{4}$  of a mill for the support of the District which has been in operation since 1949. Primary impetus to its formation was provided by the severe hurricane and the subsequent flood of 1947.



In addition to the activities of the Flood Control District, Metropolitan Dade County itself maintains about 25 miles of levees and 75 miles of canals. The major problem in regard to existing canals is that of keeping them free of aquatic weeds. The construction of new drainage canals is facilitated by arrangements with land developers who dig the necessary canals in exchange for the spoil material.

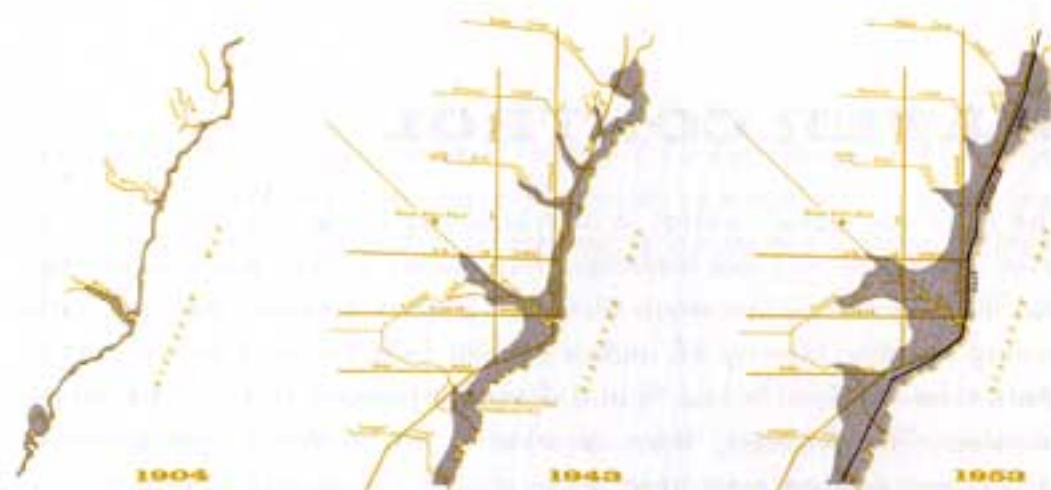
Despite the continuous efforts of the Flood Control District and the County, the water control problems of the area are far from solved. The original plan of the Flood Control District is only about 20% completed and the target date of 1965 now seems practically unattainable. The vital importance of the problem demands that renewed interest and greater effort be directed toward a solution. Directly involved are the many facets of community life affected by water and its control — urban growth, environmental health, adequate irrigation and drainage of agricultural lands, prevention of salt water intrusion and the requirements of marine and other special interest groups.

## SALINITY CONTROL

An integral part of efforts toward overall water control are those associated with preventing the intrusion of salt into the fresh water supply. Most Dade Countians receive their fresh water from large, publicly owned wells, many others rely on individual private wells. While the Biscayne Aquifer is capable of supplying all future water needs of the population, adequate provision against contamination of the Aquifer is essential.

The most serious potential contamination is salt water which, when the fresh water table falls below a critical level, seeps into fresh water areas. The critical level varies between one and four feet above sea level. In the dry season when rainfall is not adequate to recharge the Aquifer, uncontrolled drainage through the numerous canals leading into Biscayne Bay causes a lowering of the water table below the critical level.

Solution to the problem has been sought through the use of salinity control dams strategically placed along the canals. These restrain the free drainage of fresh water into Biscayne Bay at times when the water table appears in danger of falling below desired levels. Naturally, such structures create additional problems by obstructing boat traffic on the canals and impeding the discharge of sewerage effluent into Biscayne Bay, although, as the County becomes increasingly urbanized, the use of the canals and the bay for the disposal of wastes will become even less desirable than it is now and other methods of disposal will need to be found. Another problem connected with salinity control is the conflict that it sometimes creates with agricultural interests desirous of having large areas drained of water during the winter growing season. Such drainage can make the maintenance of high water table levels impossible.



**SALT BARRIER LINE**

The illustrations above show the extent of salt water intrusion over a period of years and the salt barrier line as established by Metropolitan Dade County in 1960. This salt barrier line establishes the inland limit beyond which no canal, channel, or other continuous excavation can be extended without a salt control structure. The prevention of salt water intrusion calls for a constant balancing of the various requirements of the community to insure that the precious water supply of the Biscayne Aquifer is protected at all times.

## BULKHEAD LINES

The widespread and understandable desire to obtain access to the waters and beaches of Metropolitan Dade County has placed a high value on lands abutting those areas. Thus, the cost of filling shallow places in Biscayne Bay and the Atlantic Ocean to create waterfront land is far exceeded by the large returns to be gained from the sale and/or development of such lands.

The objections to the indiscriminate filling of the bay are obvious. Much of Metropolitan Dade County's economy is centered around the beauty and recreational use of its surrounding waters. Uncontrolled filling eventually could transform what is left of the bay into a jigsaw complex of man made islands separated by narrow waterways and connected by scores of small bridges.

Some will classify this statement as an unwarranted fear. Others who perhaps have lived in Dade County a little longer will say that it is not outside the realm of possibility. Surely all will agree it would be a tragedy if it were to happen, and that great vigilance must be exercised to insure that it does not happen. Holding the line — the bulkhead line — is the keystone of that vigilance.

Submerged lands in the State of Florida belong to the people of Florida and are protected and administered by the Trustees of the Internal Improvement Fund, an agency of the state government. Nevertheless, in the past, large areas of submerged land in other parts of Florida have been the subject of widespread speculation, often at the sacrifice of the public interest. This malpractice resulted in state legislation to create bulkhead lines. These lines establish the outer limits of bay and ocean bottom land which may be converted to dry land by filling. The illustration at lower right shows the bulkhead lines in Dade County as approved by the IIF. Incidentally, submerged land within bulkhead lines can be sold, but only to the upland owner — the owner of abutting dry land.

## LAND VALUES

The value of land is, of course, a reflection of the joint judgments of buyers and sellers as to the balance among the many elements affecting supply and demand. In Metropolitan Dade County, these judgments have been such as to place a relatively high price tag

on land, although there is no meaningful "average" price and exact comparisons with other areas is virtually impossible. It is however, not unusual for an average size vacant lot in an attractively developed residential area to sell for \$7,500 or more and for raw acreage to bring \$10,000 or higher per acre. At the same time, the outlying market covers a broad range of land values and different locations will command widely varying prices depending on fill requirements, surrounding developments, nearness to the bay and ocean, permitted uses, current speculative interest and a host of other considerations.

Both the long term price trend and short term fluctuations have exercised and will continue to exercise critical influence on the amount, direction and nature of urban development in Metropolitan Dade County. The value of a piece of land is, after all, an important determinant of whether a given use is or is not feasible, and realistic planning can be accomplished only through a constant and accurate appraisal of this determinant.



## THE USE TO WHICH WE PUT THE LAND

### INTRODUCTION

*Metropolitan Dade County is the largest county in the State of Florida. It contains 2,352 square miles of area — land and water — less than 9% of which is in urban use. A detailed study of this area and its various activities has provided much interesting and valuable information about our unique, sub-tropical environment which is currently classified as the fastest growing metropolis in the United States.*

# INFLUENCE OF THE PAST ON THE PRESENT

## OUR PHENOMENAL GROWTH

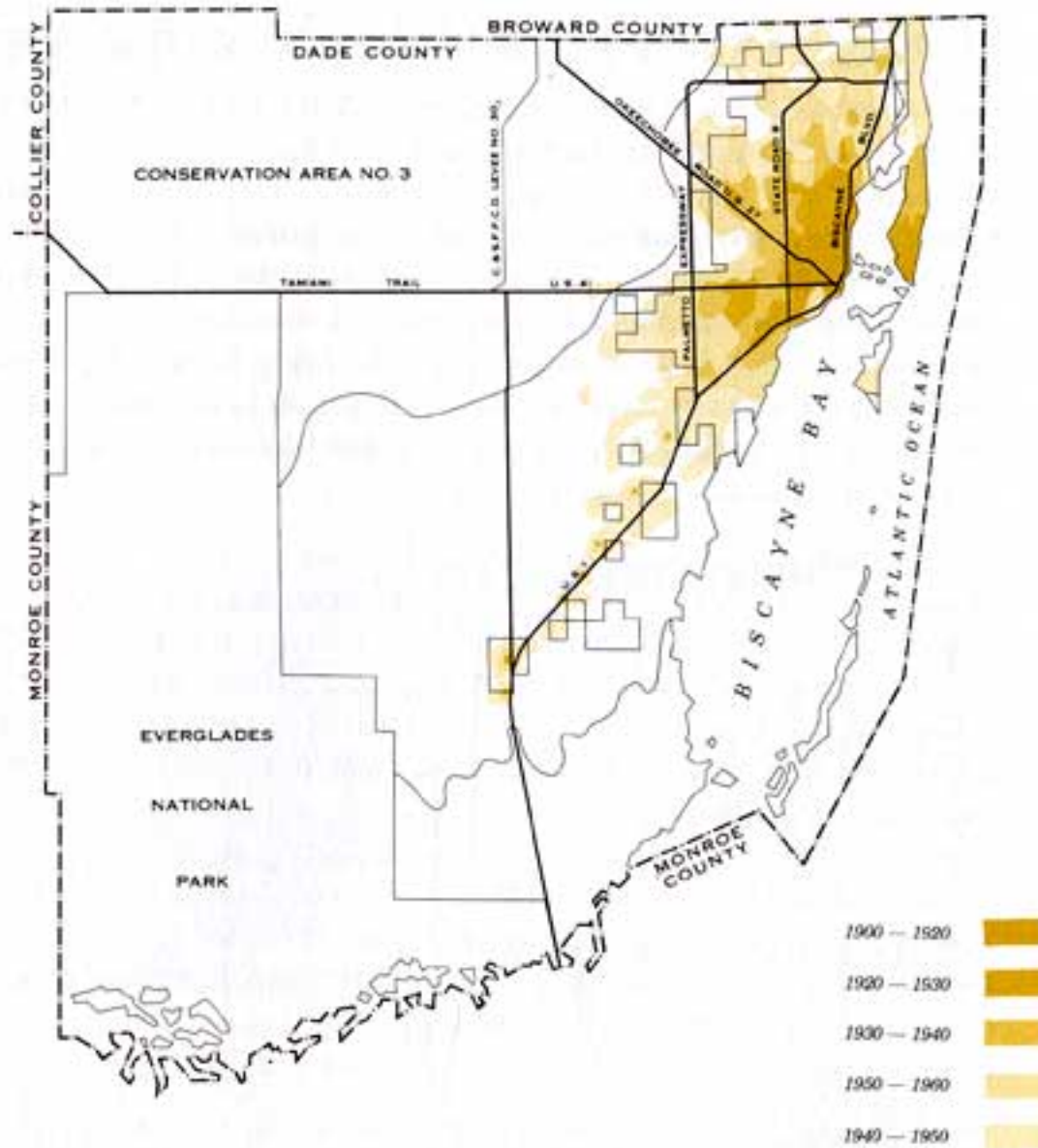
Dade County's urban growth throughout the past six decades has been phenomenal. An examination of this rapid increase provides an insight into what might be expected in the future and what preparations will be necessary to accommodate continued expansion. The map at right gives a graphic presentation of the urban growth of the County.

The year 1896 marked the arrival of Henry Flagler's Florida East Coast Railroad and the incorporation of the City of Miami. The railroad, and the highway paralleling it, opened south Florida to the world.

During the next 20 years development gained momentum. Mr. Flagler extended his railroad through the rich agricultural areas around Homestead and all the way to Key West. John Collins built a wooden bridge from Miami to Miami Beach, at that time a swampy strand across Biscayne Bay. The new form of transportation, the automobile, opened both sides of the bay to the cultivation of a crop far more lucrative than oranges and tomatoes — tourists.

The decade ending in 1930 is summarized in many minds by a simple phrase "boom and bust." Florida caught the imagination of the nation and "wonder cities" appeared almost overnight. A fever of over-speculation and over-subdivision swept the area. Unfortunately, the economy stood on feet of clay and in 1926, badly weakened by a disastrous hurricane, it crumbled. During the depression years of the early thirties the tourist industry had enough vitality to keep south Florida development going, albeit at a substantially slower pace. After the "bad times" tourists started to come in droves, many of them for the first time by airplane, and Miami became the winter vacation land of the country.

During the years of World War II growth was moderate. The war ended with an explosion of pent-up demands for housing and vacations. Miami Beach hotel builders worked round the clock and a new boom was on.



**URBAN GROWTH**

The past decade has seen a sustained and rapid growth for all of Metropolitan Dade County. Very close to the million mark in population, the County is now a major metropolis with all the advantages and problems that are characteristic of such size and complexity.

## **AREA WIDE PLANNING, AT LAST!**

Unbelievable as it may seem, Metropolitan Dade County, Florida — world famed gateway to the Caribbean and South America, center of nearly one million permanent residents — has grown to its present place of prominence without the benefit of area-wide planning. Like Topsy, it just grew. However the area has now reached a point of maturity as a metropolis with complex area-wide problems and thus, can no longer afford to just grow. But for those who are not familiar with the chain of events which led to the adoption of an area-wide planning program for Metropolitan Dade County, let us briefly retrace the steps.

18

The first attempt at formal planning occurred in 1934, when the Governor of Florida appointed a local planning board for the County. The Board, however, proved to be ineffective and eventually was dissolved. It was not until 1945, largely due to the efforts of the University of Miami, that a County Coordinating and Planning Committee was formed. This committee reviewed plans for specific projects, but it did not try to achieve a master plan for the area. The CCPC eventually gave way to the Dade County Department of Planning and Zoning which attempted to handle both planning and zoning matters. Because of the number and variety of municipalities involved, the formulation of an area-wide master plan was either jurisdictionally or politically precluded. The County government, limited to the unincorporated areas, could do nothing.

Thus, the lack of overall, coordinated planning was one of the prime motivations that led to the Home Rule Amendment of 1957 which established a metropolitan form of government in the County. The Home Rule Charter specifically provides for the creation of an area-wide planning department as a principal function of the new government. It states that there shall be conducted . . . "STUDIES OF COUNTY POPULATION, LAND USE, FACILITIES, RESOURCES,

AND NEEDS AND OTHER FACTORS WHICH INFLUENCE THE COUNTY'S DEVELOPMENT, AND ON THE BASIS OF SUCH STUDIES PREPARE SUCH OFFICIAL AND OTHER MAPS AND REPORTS AS, TAKEN TOGETHER, CONSTITUTE A MASTER PLAN FOR THE WELFARE, RECREATIONAL, ECONOMIC, AND PHYSICAL DEVELOPMENT OF THE COUNTY."

The Metropolitan Dade County Planning Department came into being in January, 1959. Thus, an agency is now in existence that is planning for the complex problems of a metropolitan area on an area-wide basis.

## **ZONING - NOT A SUBSTITUTE**

Zoning is a planning tool that controls the use to which we put the land. As a tool, its effectiveness depends on its discriminate use in accordance with a sound plan for action.

Zoning in Dade County and the municipalities originated during the 1930s when the State of Florida adopted enabling legislation which permitted the regulation of land use by local units of government.

With 26 municipal corporations and a county empowered to zone, the area soon became a hodgepodge of confusion and conflict. Numerous zoning boards, operating for the most part with no knowledge of desirable planning standards and subject to the pressures of special interests, gave little consideration to the aim of land use regulation, namely, the gaining of the greatest sociological and economic good from the land.

**ZONING CAN NEVER BE A SUBSTITUTE FOR PLANNING. IT IS MERELY ONE OF SEVERAL TOOLS FOR IMPLEMENTING A PLAN. ZONING, BY ITSELF, IS OF LITTLE VALUE AND CAN DO MUCH HARM.**

Many of the current patterns of land use in Dade County reflect both past and present zoning controls to a great degree. Many of our future patterns of land use will undoubtedly be influenced by existing zoning patterns. For this reason, the land use analysis portion of this report includes a look at the present patterns of zoning (permitted use) in Metropolitan Dade County.

## LAND USE SURVEY

A thorough knowledge of existing land use patterns and their inter-relationships is essential to the intelligent formulation of a long-range comprehensive plan for the orderly development of any area.

In 1959-60 the Metropolitan Dade County Planning Department conducted a land use inventory on a block by block, lot by lot basis for the purpose of obtaining current and reliable data about how each parcel of land in the County is used. This one year study identified, classified, tabulated and mapped all existing land uses in the 26 municipalities within the County as well as the unincorporated areas. It required the services of several field survey teams. Boats, helicopters and aerial photographs were used to obtain information about inaccessible parts of the County.

After the field survey was completed (about 6 months duration), an expanded office force began a detailed analysis of the raw data. All land uses were divided into 10 principal categories, classified and color coded. The classification system was later enlarged into 51 sub-categories to provide greater detail for analysis and future reference. Urban and non-urban areas were identified and the following statistical units were delineated: (1) blocks, (2) U. S. census tracts, (3) sections, townships and ranges and (4) political subdivisions. Over 300,000 individual parcels of land in more than 18,000 blocks had to be reviewed and pertinent information about each recorded on IBM electronic punch cards. Sixty hours of continuous machine operation by the Data Processing Division of Metro's Budget Department provided the necessary tabulations. The information was then posted on large maps specially prepared for that purpose. Acreage and percentage distributions of all developed



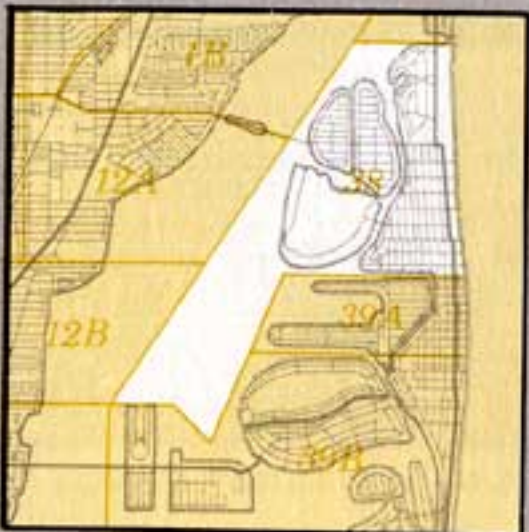




**TOWNSHIP - RANGE - SECTION**



**MUNICIPALITY**



**CENSUS TRACT**

land in the County were computed and the results were made available to departments and agencies of the Metropolitan Government and the various municipal governments, as well as to interested persons and public and private organizations.

Metropolitan Dade County's high rate of growth produces rapid land use changes throughout the area; therefore, every effort must be made to keep existing information, gathered at considerable cost, up to date. A procedure for doing just that has been worked out with Metro's Tax Assessment Department which will forward descriptions of all land use changes in the County to the Planning Department which will, in turn, make the necessary corrections as they occur. In this way, land use records and maps can be kept current.

Prior to the establishment of metropolitan government in Dade County, overall land use information was non-existent. A few of the larger municipalities had examined the ways in which land in their particular community was being utilized, but without regard to the area as a whole. Now, for the first time, there exists an accurate, parcel by parcel record of what is happening to Dade County's most basic and valuable resource. This recently completed survey represents an important milestone on the road to a much needed master plan for the entire metropolitan area. A complete description of the land use survey can be found in the Planning Department's publication "Methods Manual, Existing Land Use Study For Metropolitan Dade County, Florida".

The following pages present a summary of the analysis of land use in the more populated portions of Metropolitan Dade County — the urban area — as well as general land use information about the County as a whole.

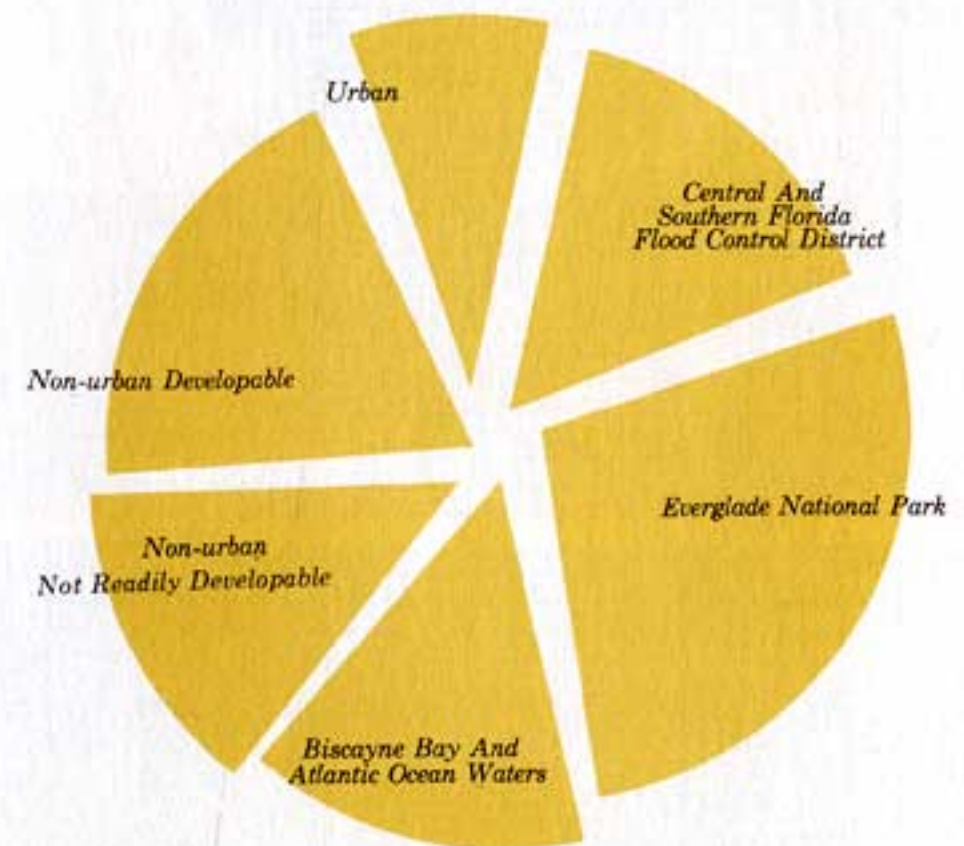
## MAJOR USE AREAS

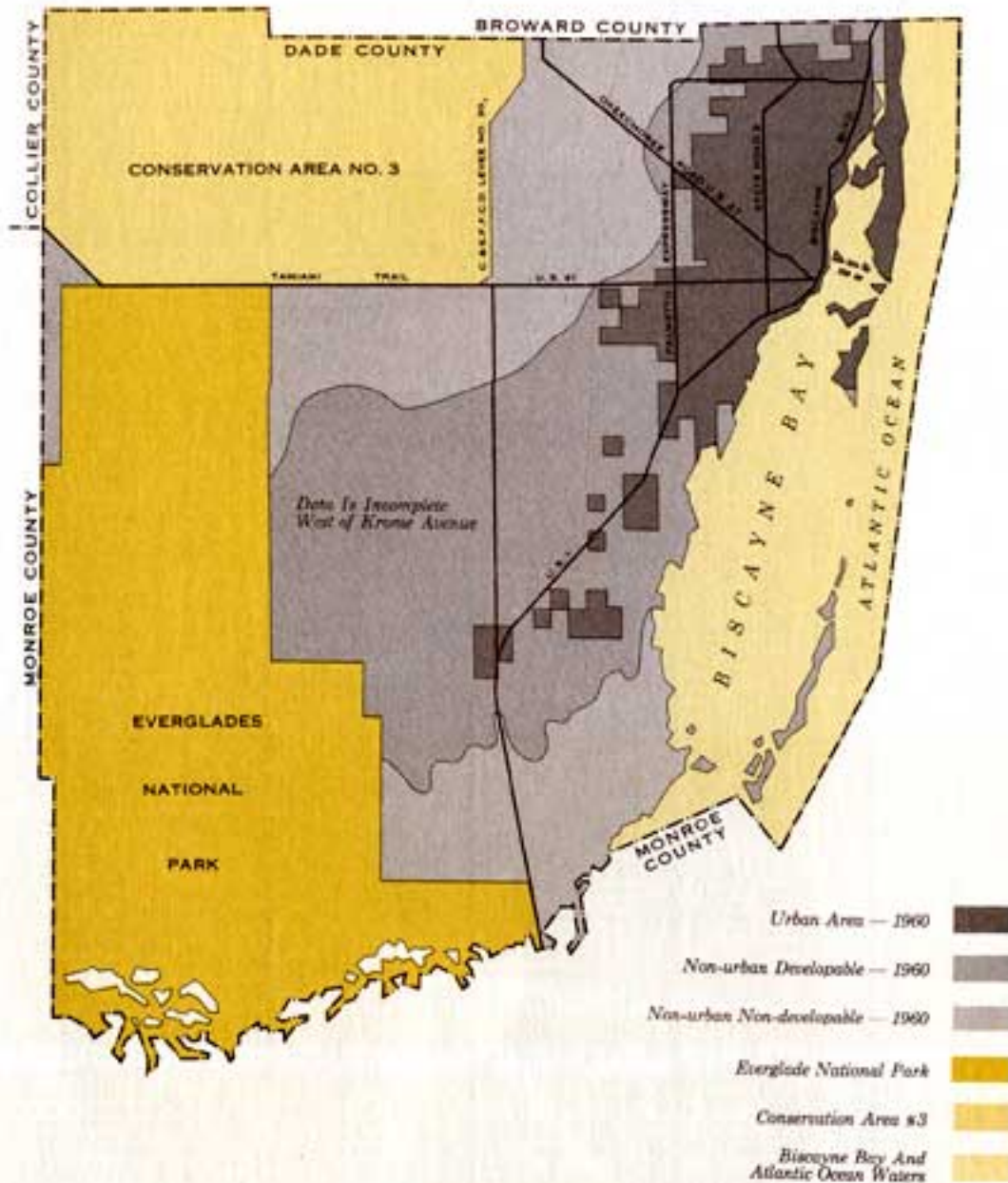
For statistical purposes, Metropolitan Dade County was divided into six major use areas: (1) Central and Southern Florida Flood Control District, Conservation Area No. 3, (2) Everglades National Park, (3) ocean and bay waters, (4) non-urban uses — not readily developable, (5) non-urban uses — developable, and (6) existing urban uses.

### CONSERVATION AREA #3

The Central and Southern Florida Flood Control District is the state agency responsible for local cooperation in a Federal Flood Control Project which covers part or all of 18 Florida counties. The purpose of the project is to provide primary works for water control in order to prevent recurring threats to life and property in an area containing half the state's population. Flood damage prevented by installations so far constructed already has exceeded the cost of those installations. The overall district is divided into 3 conservation areas surrounded by levees. These are used to store water to protect the area from flooding. Conservation Area No. 3 extends over parts of both Broward and Dade Counties. It covers 368 square miles in Dade or 15.6% of the County.

The lands in the Central and Southern Florida Flood Control District are under the control of the District Authority and for all practicable purposes will not be available for urban development.





**MAJOR USE AREAS**

## EVERGLADES NATIONAL PARK

The present boundary of Everglades National Park was established in 1958, although the park — the nation's 28th National Park — was opened to the public in 1947. It contains approximately 1900 square miles, 659 of which are within Dade County. This is 27.6% of the total County area. Unless the policies of the National Park System change, the portions of Everglades National Park which are in Dade County will be unusable for urban use.

## OCEAN AND BAY WATERS

The statutory limits of Dade County extend 3 miles out into the Atlantic Ocean. This water area contains 354 square miles or 15.1% of the County. This can be further divided into ocean area (132 square miles) and bay area (222 square miles). About 20 square miles now under water could be added to existing land areas by filling to the approved bulkhead lines. All of the area outside the established bulkhead lines are by law currently undevelopable, except for public uses.

## NON-URBAN - NOT READILY DEVELOPABLE

Within Metropolitan Dade County there are areas which have severe soil and/or water problems, namely, the glade and marsh lands which cannot be used without major land fill and drainage improvements. They cover some 326 square miles — 13.9% of the total — in the north central, west central, extreme south and south-east parts of the County and along the mainland of lower Biscayne Bay. As the Central and Southern Florida Flood Control District water control program progresses, the glades and marshes gradually will recede and become suitable for agricultural or urban development.

## NON-URBAN - DEVELOPABLE

The non-urban developable areas of Metropolitan Dade County are those which do not meet the criteria to be classified as "urban." In other words, they do not support high density, city-like developments at the present time. The predominant use is for agriculture, but much of the land is presently vacant. However, portions of the area west of Krome Avenue are subject to periodic flooding, consequently these areas have limited developability until proposed flood control projects are completed.

## URBAN

The urban parts of the County are the built up areas — the most highly concentrated, densely populated of the 6 major categories. The criteria used in delineating these areas were: (1) there must be 500 or more residential dwelling units per section, (2) sections with less than 500 residential dwelling units must be predominantly urban in character and (3) all major air bases, airports and air-fields are included therein.

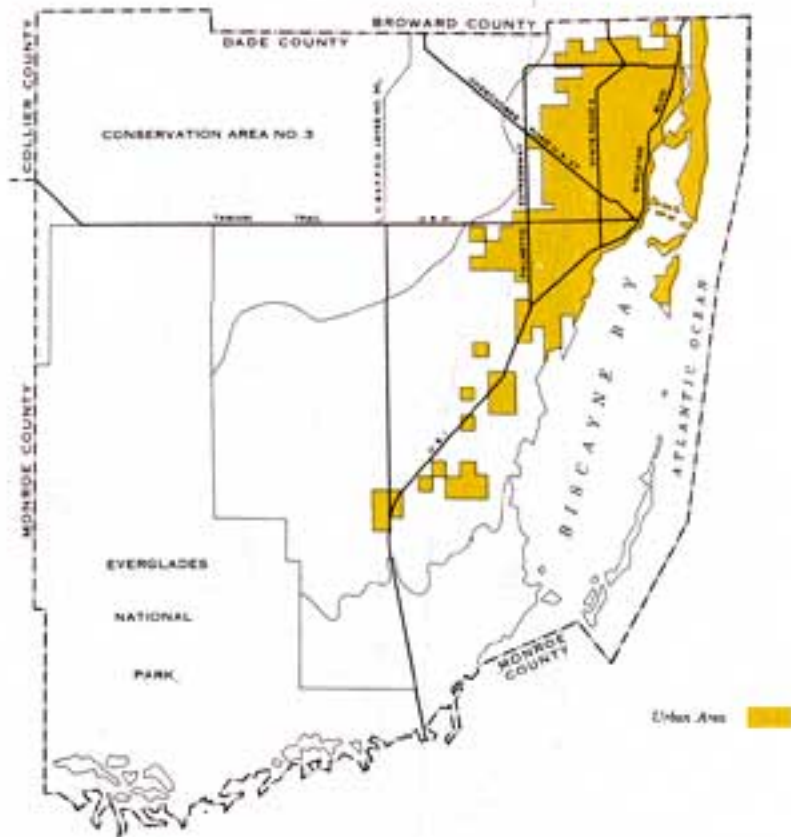
The map at left shows the relative location and shape of the 6 major use areas. General statistical comparisons are depicted by the chart on page 21 and the tables at the right. In addition to giving a summary of the statistics of the 6 areas, the table indicates those areas in the County that are available for development.



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## MAJOR USE AREAS

	USE	AREA IN SQUARE MILES	% OF METROPOLITAN DADE COUNTY
Not Available for Development	Conservation Area #3	368	15.6%
	Everglades Park	650	27.6%
	Bay and Ocean	354	15.1%
	TOTAL	1,372 sq. mi.	58.3%
Available for Development	Non-urban — Not Readily Developable	326	13.9%
	Non-urban — Readily Developable	455	19.3%
	Urban	199	8.5%
	TOTAL	980 sq. mi.	41.7%
	TOTAL — Metropolitan Dade County	2,352 sq. mi.	100.0%



**URBAN AREA**

## URBAN AREA

Metropolitan Dade County's urban area includes all of the various kinds of land uses found in other metropolitan communities in the country or, for that matter, the world. These uses are listed in the table at lower left along with the amount of land devoted to each and the percent of the total each represents. It should be kept in mind that only 199 square miles are presently developed for urban activities and that this is only 8.5% of the total area of the County.

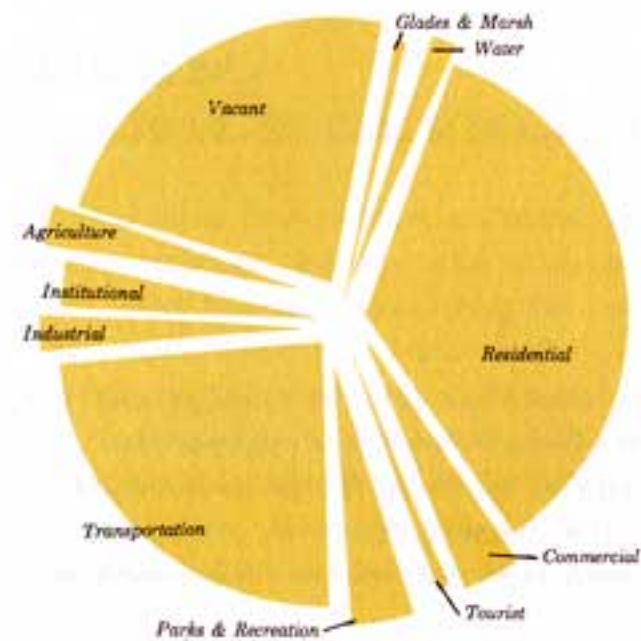
As previously defined, the urban area contains the most highly concentrated, densely populated portions of Metropolitan Dade County. It houses nearly 95% of the County's population.

The various categories of the land use survey, as they pertain to the urban area, will be discussed next in this report. The table on page 35 gives a statistical summary of all observed land uses in the urban area as well as the amount of area zoned for said uses. However, the zoned areas cannot be directly compared to land use areas because they are gross figures. For example, areas zoned residential contain not only residential land but also, streets, schools, parks, and other uses. However, the zoned areas do show a general relationship to the land use areas.

### URBAN AREA

USE	AREA IN SQUARE MILES	NUMBER OF SQUARE MILES ZONED*	% OF URBAN AREA
Residential	69.1	126.2	34.8%
Commercial	6.8	18.4	3.5%
Tourist	1.4	5.3	0.6%
Industry	4.0	9.1	2.0%
Institutional	6.0		3.1%
Park & Recreation	7.5		3.8%
Transportation	49.2		24.6%
Agricultural	4.4	11.1	2.2%
Waterways	3.7		1.9%
Undeveloped	46.8		23.5%
Vacant	46.6		23.4%
Glade or Marsh	0.2		0.1%
General Use		28.9	
<b>TOTAL</b>	<b>199.0</b>	<b>199.0</b>	<b>100.0%</b>

\* These figures represent gross areas while figures of land use areas represent net areas.



## RESIDENTIAL

Land used for residential purposes occupies 34.8% of the urban area. By definition, "residential use" pertains to any dwelling unit used for permanent housing and excludes all tourist accommodations such as hotels, motels and apartment hotels. 89.5% of the residences in Dade County are single family houses (detached structures containing one dwelling unit) which emphasizes the low density nature of our development. Florida's homestead exemption law has undoubtedly fostered the desire for ownership of a house. The use of FHA and VA mortgage insurance has contributed greatly to the boom in home construction throughout the metropolitan area.

Duplexes (detached structures containing two dwelling units) and multi-family houses (detached structures containing three or more dwelling units) account for only 8% of all residential uses in the urban area. Developers in Metropolitan Dade County are only beginning to utilize the multi-story type of structure for residential purposes. The locations of such structures are usually adjacent to or directly accessible to large commercial-retail agglomerations. As an urban area grows in population and becomes more sophisticated, the erection of multi-story residential structures near the downtown business district becomes more common.

The 3 maps at right offer an interesting comparison between the amount of land in Dade County ZONED for the 3 major residential uses and the amount in ACTUAL USE. The most glaring discrepancy between existing and permitted use occurs in the two-family category. There are 2.8 sq. mi. of land in two-family use and 20.5 sq. mi. zoned for this use. This great disparity between two-family permitted and existing uses can easily be explained. During the years of World War II when housing was scarce, many areas were rezoned from single family to two-family. Thus, a single family structure could be divided into two dwelling units, an additional single family unit could be built on the same lot, or a garage could be converted into an apartment; however, these rezoned areas were not fully utilized and today they still contain a majority of single family houses.

Other residential uses — rooming houses, trailer parks and camps — account for only 0.9% of all residential uses in the County.



**SINGLE FAMILY USES**



**TWO FAMILY USES**



**MULTI FAMILY USES**



## BLIGHT

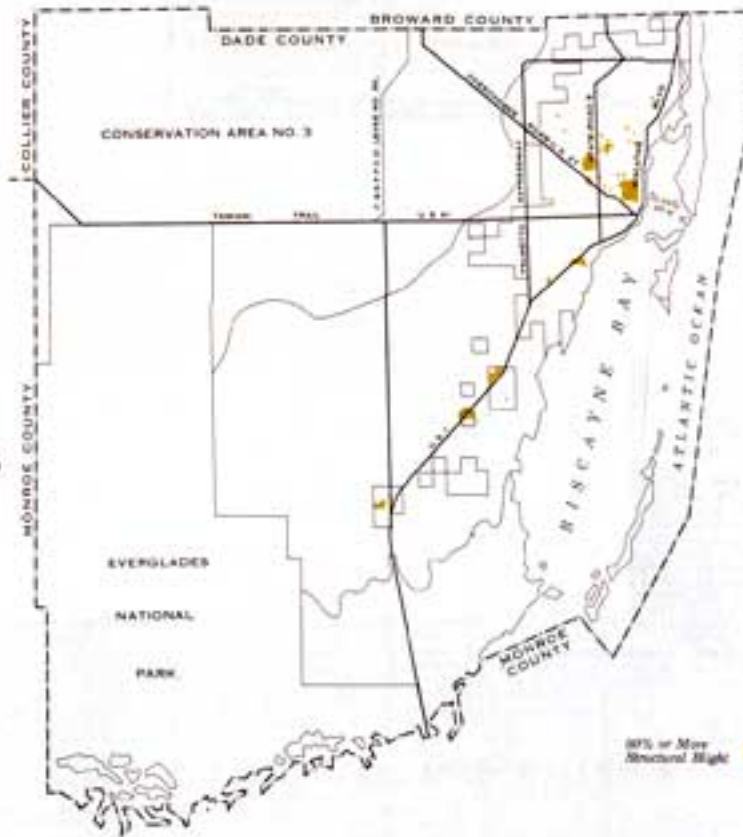
The land use survey described earlier in this report recorded not only the different kinds of land use, but also an estimate of the quality of land use. The entire County was visually checked for physical deterioration and those blocks which exhibited 50% or more structural decay are shown on the map at left. There are several factors which constitute "blight" other than just visual appearance—structural blight, technological blight (obsolescence) overcrowding, urban service blight and community facilities blight. These other components of overall deterioration were not considered in the land use survey except where they contributed to visual blight. Had all of the blight factors been used in the survey, much more of the metropolitan area would be shown as blighted on the map at left. Only the obviously bad pockets of decay were recorded.

These slum, or near slum, conditions constitute a dangerous threat to the healthy sections of the community and they should be eliminated. The existence of blighted areas in Dade County indicates a need for a minimum housing code, the strict enforcement of building codes and off-street parking regulations and the provision of adequate public facilities and services. Total redevelopment of the most seriously decayed blocks is required. Rehabilitation and conservation of borderline areas is also needed to prevent the spread of blight and preserve the important amenity values of the metropolitan area.

Economically, blight is a drag on the entire community. The cost of various urban services — police and fire protection, health and welfare programs, to name a few — far exceeds the tax returns from slum sections and is out of all proportion to the rest of the metropolitan area. **SLUMS COST YOU MONEY.**

Although the foregoing refers primarily to substandard residential uses, other categories (commercial, industrial, recreational, etc.) certainly are not free of deterioration. Blight exists throughout all types of land uses within the County.

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## BLIGHTED AREAS



## DENSITY

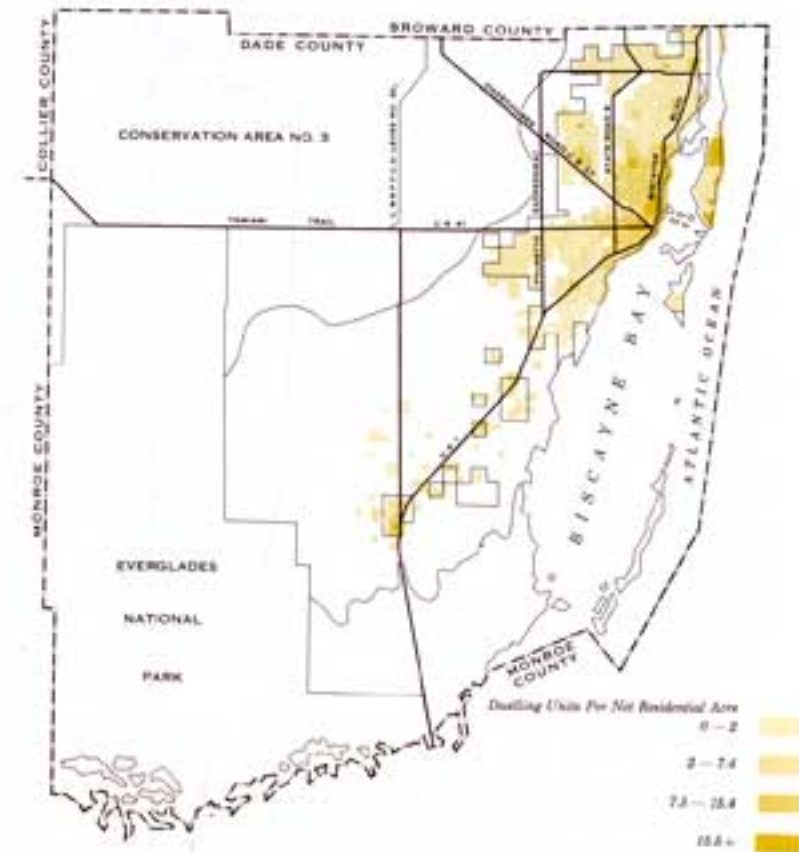
Residential density refers to the number of people living on a given amount of land. The darker tones on the map at lower right identify the areas of high residential density within Metropolitan Dade County and the lighter tones indicate suburban and estate densities.

As indicated by both the map and the photo, densities are highest in the Miami central core and tend to decrease in proportion to the distance from the downtown district. Exceptions to this general pattern exist in the form of small but significant pockets of high density use scattered throughout the metropolitan area. These pockets are centers of intense local business activity such as Miracle Mile in Coral Gables, Lincoln Road Mall in Miami Beach, the 163rd Street Shopping Plaza and others.

The standard density pattern of "radiating out from the center" is based largely on our system of land valuation. The closer to the core, the higher the values; the higher the values the greater the density must be to support said values. In Dade County the high densities surrounding the Miami central business district (15.5 dwelling units per net residential acre) are high only in relation to other densities in the metropolitan area. Compared to nationally recognized standards consistent with sound principles of healthful housing, this area's "high density" is actually quite low. Standards recommended by the American Public Health Association range from 5 to 85 dwelling units per net acre, depending on the type of structures involved. It is, of course, this overall low density ratio that has made Dade the kind of community it is, namely, a sprawling suburban metropolis.

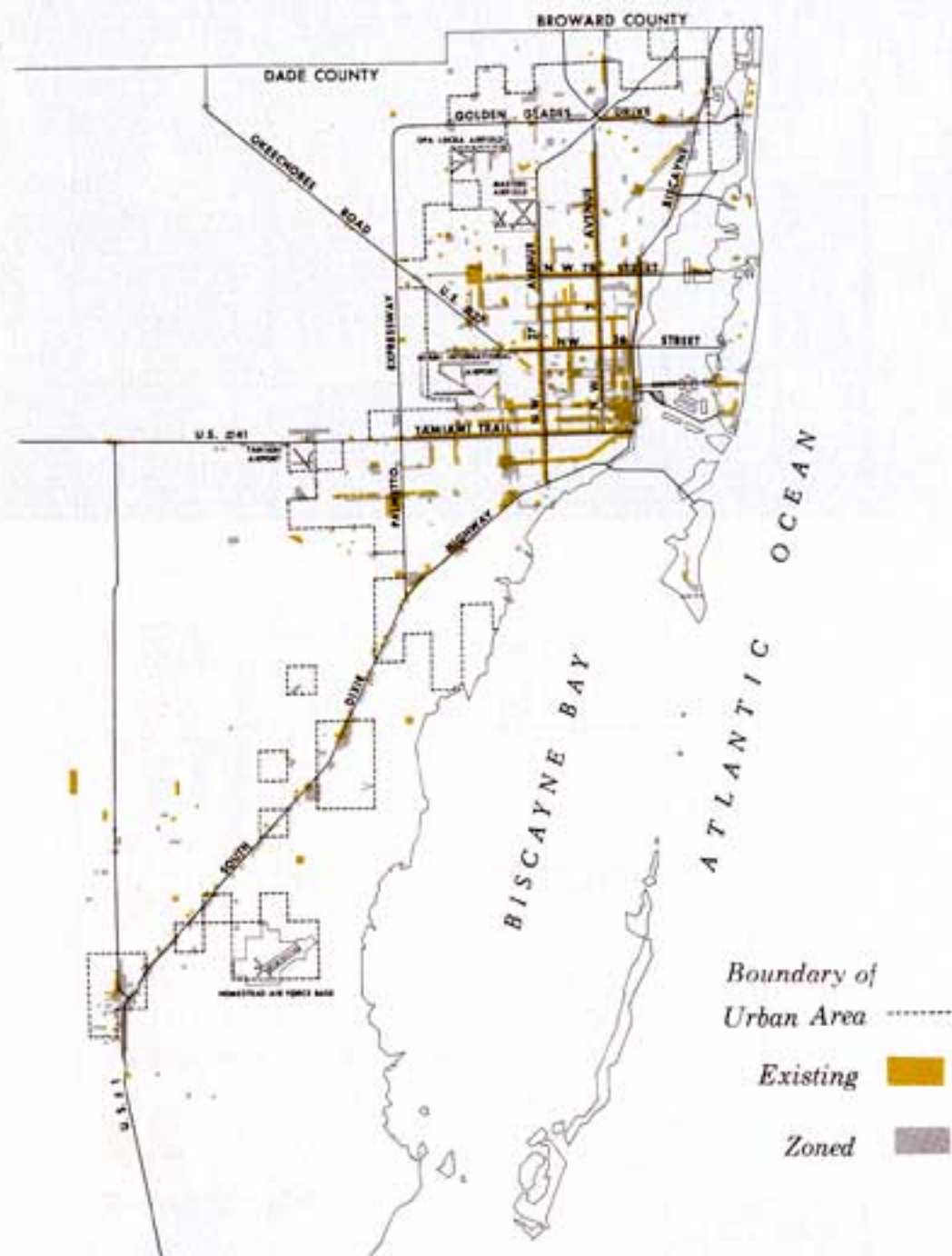
As shown on the map, certain areas have little or no density. Some of these are other than residential land uses (parks, airports, agricultural sections), but in far too many cases they denote vacant lands — which illustrates the leap frog type of development that has taken place throughout this vast metropolitan area.

Density, then, is a key consideration in planning for future growth. As density increases or decreases, the whole range of urban needs, problems and solutions changes drastically. A densely populated community has far different park, sewer, policing, etc., requirements, as well as different zoning, parking and housing problems, than a low density suburban community of the same geographical size.



**RESIDENTIAL DENSITY**





**COMMERCIAL USES**

## COMMERCIAL

Commercial land uses include all activities having to do with buying, selling, providing services, office facilities and entertainment. This type of land use accounts for 3.5% of the urban area in Metropolitan Dade County. Unfortunately, most of it takes the form of what is called "strip commercial development" — continuous ribbons of business establishments bordering primary and secondary traffic arteries. It is immediately apparent that strip commercial areas create serious traffic and servicing problems, not to mention esthetics and blighting effects on adjacent residential properties.

The abundance of strip commercial throughout Dade County (and every other urban area) stems from the age-old practice of locating places of business on well-traveled thoroughfares. The predecessor of the supermarket on Main Street was the tent bazaar on the Damascus Road. And thus, it has ever been. When zoning came into use after World War I, the established pattern was followed and both sides of important streets were zoned for commercial use — mile upon mile upon mile.

Contrary to general belief, the fact that an area is zoned commercial does not guarantee that the land will be so utilized. Frequently it is not, and the large number of residential and mixed uses and vacant parcels that punctuate the strips of commercial attest to this. For example, as clearly illustrated by the map at left, Metropolitan Dade County has 18.4 square miles ZONED commercial, but only 6.9 square miles ACTUALLY BEING USED for business purposes. In other words, the amount of land which can accommodate commercial activities is nearly 3 TIMES present needs. Yet numerous requests and appeals for rezoning from residential to commercial are filed and granted annually.

Strip commercial development was sired by large scale urbanization and nourished by the automobile. True, city streets in the horse and buggy era were flanked by shops and stores, but usually only for a distance of a few blocks in the downtown business district. There were no traffic choked, neon lighted midways extending for 20 or 30 miles through a congested metropolitan area. The present situation has become intolerable. The road leads only to greater confusion, declining sales, smaller profits, stagnation, rapid deterioration, blight, slums, an overpowering sense of frustration and defeat . . . and we are well on the way. The commercial ribbon has long since become a strangling cord.

Considering the rapid turnover of establishments along commercial strips, there appears to be legitimate question about the desirability of such locations for sound business ventures. They do, however, offer the advantage of providing a means of "easy entry" for low capital entrepreneurs. They also provide logical locations for automotive oriented businesses such as the many types of drive-ins.

A great deal of strip commercial is still being constructed, but the outlook for the future is encouraging. For the past few years the shopping center type of commercial development has been gaining popularity. These off-street, centrally located groups of business establishments on a single site, surrounded by acres of parking space, are a much more logical response to the retailing needs of the automotive age.

The recent trend to shopping centers accommodates, to a large degree, the suburban resident, but what about the older commercial areas? One innovation is the pedestrian shopping mall — the conversion of part of a commercial street into an attractively landscaped esplanade limited to foot traffic. The shopping mall seems to be gaining in popularity, but its success usually depends on finding a solution to the parking problem. Lincoln Road in Miami Beach is a dramatic example of a mall development. It is the second permanent installation of that type in the United States.





## TOURIST

Tourism comprises about 20% of Metropolitan Dade County's economic base. As such, it is a most important land use and contains all the uses which cater to the tourist; however, for the purposes of the land use survey the tourist category includes only those activities having to do with the provision of transient accommodations, namely, hotels, motels, boatels, and hotel and motel apartments and excludes restaurants, night clubs and other tourist attractions unless said facilities are located in a hotel or motel.

Collectively, tourist accommodations occupy only 1.4 square miles or 0.6% of the urban area of the County and over 60% of the land in this use is devoted to hotels. Considering the vital importance of the tourist industry to the community, that is not very much. It, therefore, reflects the high degree of intensity of tourist uses. In numbers, there are 1,109 hotels and motels with 62,625 rooms.

Tourism in Dade County has undergone some significant changes in recent years. The intense use of land and facilities seems to have driven the carriage trade, so to speak, to quieter, less densely populated places. Efforts must be made to recapture this cream of the tourist crop by providing the type of environment which the extremely wealthy visitor demands.





### INSTITUTIONAL

Activities such as schools, hospitals, government, churches, auditoriums, museums, lodges, homes for the aged, fire stations, etc., whether public or private, are classified as institutional land uses.

The needs of such institutional uses are rather difficult to ascertain. The levels of service that a metropolitan area requires depend primarily on the desires of its populace. For example, there is Jackson Memorial Hospital which has developed into one of the major medical centers in the nation, and the University of Miami which has surpassed all expectations in the span of a few years.

Institutional land uses in Dade County, some of which are shown in the photographs above, occupy a total of 6 square miles or 3.1% of the urban area. Almost half of this is devoted to educational uses.

### PARK & RECREATION

Seven and one-half square miles of Dade County land — 3.8% of the urban area — are used for parks and recreation. Included in this category are beaches, golf courses and cemeteries. Over half of the 7.5 square miles is in the form of parks, most of which are

large and serve regional needs. Examples are Crandon, Matheson Hammock and Haulover Beach Parks.

Unfortunately, the regional parks are not evenly distributed throughout the metropolitan area. All are located on or near the coast which means people living in the central and western parts of the County must travel long distances to reach them. As population densities increase and development continues to move westward, the need for large parks in those areas will become critical. Wherever possible, appropriate sites should be acquired in advance of development to reduce costs.

Water oriented park and beach facilities are in great demand in Metropolitan Dade County. Presently there are not enough to accommodate both the permanent residents and the millions of tourists. It is a double barreled challenge. While eliminating present deficiencies we must provide for future needs.

There is also a scarcity of smaller parks and recreation areas which serve neighborhood needs.

Some representative park and recreation land uses are shown in the photographs above.

## TRANSPORTATION

This category includes utilities and all land uses and their rights-of-way devoted to the movement of people and goods.

The most common use is that of streets and their rights-of-way. This use occupies 35.9 square miles of land — 18% of Dade County's urban area. The street pattern is basically a grid which evolved from the original divisions of the County into townships, ranges, and sections. This type of land use is the access skeleton to virtually all of the other land uses in the metropolitan area.

Miami International Airport is the major air terminal in south Florida. Combined with the Homestead Air Force Base and the Tamiami Airport, these facilities occupy 8.0 square miles or 16.2% of the transportation land use. Railroads, once the transportation backbone of the area, have taken a back seat in importance as a passenger mover; however, their facilities cover about 2.6% of the urban land and they are still an important part of the total transportation complex.

## AGRICULTURAL

Land used principally for raising foods, growing plants and for grazing purposes are classified as agricultural. This use constitutes 4.4 square miles or 2.2% of the urban area in Dade County. This relatively high percentage of farm land within the urban area indicates the irregularity of the peripheral fringe and the continuing encroachment of sprawling urban development on crop and grove areas.

Fruit groves within the urban area account for about one-fourth of the agriculture uses and crops about three-fourths. Dade County still has many small farms scattered around the edges of the urban area.





## **WATERWAYS**

Without question, waterways are among Dade County's most valuable assets. The rivers and canals of the area not only drain excess water from the land, but they provide access to abutting properties. They play a major roll in the overall water control program.

The many man made lakes in Metropolitan Dade County afford "water front" amenities to residents whose homes border on those lakes, even though the lakes were created to provide raw material for an extraction industry or fill for surrounding lands. The canals also were used as source of fill for low lying areas.

In the urban area of the County there are 3.7 square miles of water use — 1.7 square miles of lakes and 2.0 square miles of rivers and canals. This use accounts for 1.9% of the urban area. Biscayne Bay and the ocean waters which bisect and adjoin the urban area are not included as part of the urban area.

## **UNDEVELOPED**

This category consists of 2 types of land: vacant, but suitable for development and glade and marsh lands which require major land fill and drainage improvements. Vacant tracts total 46.6 square miles or 23.4% of the urban area of Dade County. For planning purposes, the airfields near Opa-Locka are classified as vacant due to present inactivity and potential new use. Removing these sizable areas from the vacant category reduces the percentage by less than one percent.

This large amount of vacant land shows a great potential for growth within the existing urban area, but it also points up the leap frog pattern of development that has occurred in the past. Extensive open spaces between built up sections do not make for an urban form that can be served efficiently or economically. It is a very costly and ineffective pattern.

## URBAN AREA LAND USES - 1960

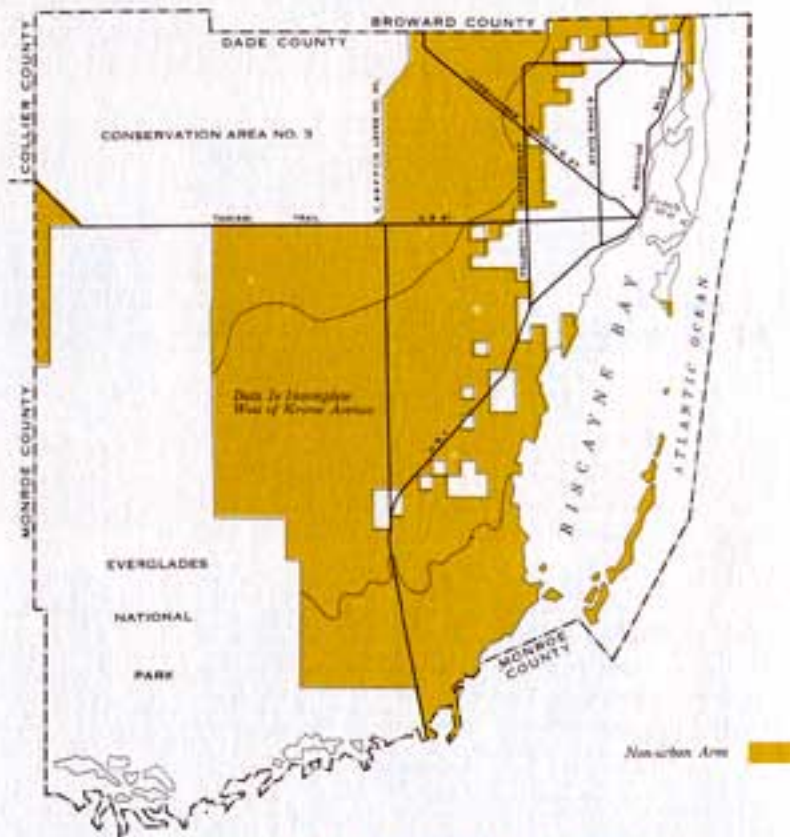
CATEGORY	AREA IN SQ. MI. (ACRES)	% OF USE CATEGORY	% OF URBAN AREA	NO. OF SQ. MI. ZONED*	CATEGORY	AREA IN SQ. MI. (ACRES)	% OF USE CATEGORY	% OF URBAN AREA	NO. OF SQ. MI. ZONED*
<b>RESIDENTIAL</b>					<b>PARKS AND REC.</b>				
Single-family	61.8 (39,526)	89.5%	31.0%	92.8	Parks	4.1 (2,629)	54.8%	2.0%	
Two-family	2.8 (1,800)	4.0%	1.4%	20.5	Playgrounds	0.3 (218)	4.5%	0.2%	
Multi-family	2.8 (1,783)	4.0%	1.4%	12.9	Golf Courses	2.5 (1,604)	33.4%	1.3%	
Rooms	0.1 (78)	.2%	0.1%		Cemeteries	0.5 (344)	7.2%	0.3%	
Camps	0.0 (24)	0.0%	0.0%		Total	7.5 (4,795)	100.0%	3.8%	
Trailers	0.5 (328)	0.7%	0.3%		<b>TRANSPORTATION</b>				
Mixed	1.1 (708)	1.6%	0.6%		Terminals	10.6 (6,784)	21.5%	5.3%	
Total	69.1 (44,247)	100.0%	34.8%	126.2	Railroad	1.3 (830)	2.6%	0.6%	
<b>COMMERCIAL</b>					Utility	0.8 (529)	1.7%	0.4%	
Commercial	6.2 (3,940)	89.6%	3.1%		Streets	35.9 (22,966)	72.9%	18.0%	
Mixed	0.7 (458)	10.4%	0.4%		Parking	0.4 (249)	0.8%	0.2%	
Total	6.9 (4,398)	100.0%	3.5%	18.4	Mixed	0.2 (158)	0.5%	0.1%	
<b>TOURIST</b>					Total	49.2 (31,516)	100.0%	24.6%	
Hotels	0.9 (549)	63.2%	0.4%		<b>AGRICULTURE</b>				
Motels	0.4 (264)	30.3%	0.2%		Groves	1.1 (687)	24.2%	0.5%	
Mixed	0.1 (57)	6.5%	0.0%		Crops	3.3 (2,102)	74.1%	1.7%	
Total	1.4 (870)	100.0%	0.6%	5.3	Mixed	0.1 (48)	1.7%	0.0%	
<b>INDUSTRY</b>					Total	4.4 (2,837)	100.0%	2.2%	11.1
Extraction	0.5 (339)	13.2%	0.3%	0.1	<b>WATER</b>				
Light Mfg.	1.0 (639)	24.8%	0.5%	6.1	Lakes	1.7 (1,104)	46.1%	0.9%	
Heavy Mfg.	0.7 (434)	16.8%	0.3%	2.9	Courses	2.0 (1,290)	53.9%	1.0%	
Light Storage	0.9 (569)	22.1%	0.4%		Bay	0.0 (1)	0.0%	0.0%	
Heavy Storage	0.4 (250)	9.7%	0.2%		Total	3.7 (2,395)	100.0%	1.9%	
Mixed	0.5 (343)	13.4%	0.3%		<b>UNDEVELOPED</b>				
Total	4.0 (2,574)	100.0%	2.0%	9.1	Vacant	46.6 (29,815)	99.6%	23.4%	
<b>INSTITUTIONAL</b>					Glades	0.0 (20)	0.1%	0.0%	
Education	3.0 (1,909)	49.8%	1.5%		Marsh	0.1 (78)	0.3%	0.1%	
Cultural	0.3 (199)	5.2%	0.2%		Total	46.7 (29,913)	100.0%	23.5%	
Medical	0.4 (232)	6.0%	0.2%		<b>TOTAL</b>	<b>199.0 (127,381)</b>	<b>100.0%</b>	<b>100.0%</b>	<b>199.0</b>
Religious	0.8 (498)	13.0%	0.4%						
Public Adm.	1.0 (641)	16.7%	0.5%						
Penal	0.0 (6)	0.1%	0.0%						
Mixed	0.5 (351)	9.1%	0.3%						
Total	6.0 (3,836)	100.0%	3.1%						

\*these figures represent gross areas while figures of land use areas represent net areas.

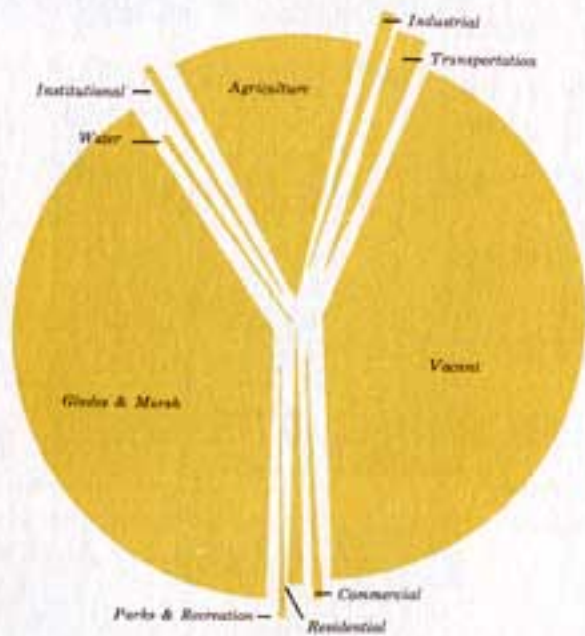
"mixed" category indicates two or more categories of the same use group on the same parcel of land.

General Use 28.9





**NON-URBAN AREA**



## NON URBAN AREA

The non-urban area, that part of Metropolitan Dade County which does not meet the urban use definition but is potentially developable, covers 781 square miles of territory. It contains all of the different kinds of land uses presently found in the urban area, but to a much less degree. The following are brief descriptions of these uses. It is interesting to note that categories which are usually characteristic of urbanization account for only 3.7% of the non-urban area.

### RESIDENTIAL

The majority of residential uses, principally single-family, in the non-urban area are in the fringe immediately surrounding the urban area. This fringe is undergoing rapid urban development and will soon come under the urban definition. The remainder of the residential uses are scattered throughout the grove and vegetable sections.

### NON-URBAN AREA

USE	AREA IN SQUARE MILES	NUMBER OF SQUARE MILES ZONED*	% OF NON-URBAN AREA
Residential	6.8	45.8	0.8%
Commercial	0.7	2.1	0.1%
Tourist	0.0	0.6	0.0%
Industry	3.7	34.1	0.5%
Institutional	1.4		0.1%
Park & Recreation	0.6		0.0%
Transportation	16.8		2.1%
Agricultural	89.8	13.7	11.5%
Waterways	2.6		0.3%
Undeveloped	658.5		84.3%
Vacant		332.8	42.6%
Glade or Marsh		325.7	41.7%
<b>TOTAL</b>	<b>781.0</b>		<b>100.0%</b>

\* These figures represent gross areas while figures of land use areas represent net areas.

\*\* No total can be given because not all of the non-urban area is zoned.

## COMMERCIAL

The predominant type of commercial use in the non-urban area is also the strip development. If that trend continues and does not profit by the example of the urban area, this **future** urban area will soon bring upon itself similar problems which now exist in the more densely populated parts of the County.

## TOURIST

Tourist accommodations in the non-urban area are for the most part limited to small motels without the glamour and plushness of their big city counterparts.

## INDUSTRIAL

The two cement plants (heavy industry) and the numerous rock extraction industries comprise the bulk of industrial uses in the non-urban area.

## INSTITUTIONAL

Medical and health facilities and public schools comprise most of the non-urban institutional uses. These include the County hospital and home for the aged, the juvenile home and the Baptist hospital, all located in the southwest sector.

## PARK & RECREATION

Homestead Bayfront Park is the largest of the non-urban park uses. Sites for a number of future parks should be acquired in the un-urbanized area to meet the recreation needs of a rapidly expanding population. Acquisition in advance of development would effect substantial public savings.



## TRANSPORTATION

Streets and their rights-of-way again constitute the bulk of the non-urban transportation use. The highway rights-of-way for U. S. 1, 41, 27, 441 and the Sunshine State Parkway within the non-urban area consume a sizeable area in this use.

## AGRICULTURAL

Agriculture is the only activity that utilizes a really significant amount of non-urban land. This category occupies 89.8 square miles or 11.5% of the non-urban area. The various kinds of groves in south Dade occupy 11.7 square miles—13% of all agricultural uses in the County. Soil conditions are such that the groves cannot be relocated, thus if they are lost to urban development, they will be lost forever.

## WATERWAYS

Lakes and water courses account for only 0.3% of the non-urban area. Two-thirds of the water uses are canals.

## UNDEVELOPED

This category covers 84.3% of the non-urban area. This "use" was divided into two parts: (1) glade and marsh 325.7 square miles and (2) vacant land 332.8 square miles. Most of the County's future growth will take place on this vacant land.

A very important part of the predominantly vacant non-urban area are the offshore Keys, a chain of small islands about 9 miles east of the southern mainland. For the most part, they are mangrove marshes and sand spits and, except for a few residences and fishing camps, they are uninhabited. The photos at left are representative of the type of development that presently exists on these offshore Keys.

Collectively, the existing land area of these Keys is 6.2 square miles. When the islands are enlarged, as undoubtedly they will be, by filling to the established bulkhead lines, 7.3 additional square miles of land will be created, making the total 13.5 square miles. It is noticeable in the illustration on page 15 that the bulkhead line for the offshore Keys is generous in favor of the upland owner. The line was approved by the Trustees of the Internal Improvement Fund of the State of Florida with the express condition that sufficient land on these Keys be reserved for public use.

It is obvious that eventually these Keys will become urbanized. The "fairy tale" development of Miami Beach is evidence that this can and will be done. As development occurs, there will be a need for more than the normal amount of land for public use. In Metropolitan Dade County, bay and ocean front parks serve a regional, rather than a local, need; consequently, sufficient waterfront land must be reserved on this last frontier in advance of development if adequate water oriented park and recreation areas are to be provided to serve the future needs of our exploding metropolis.



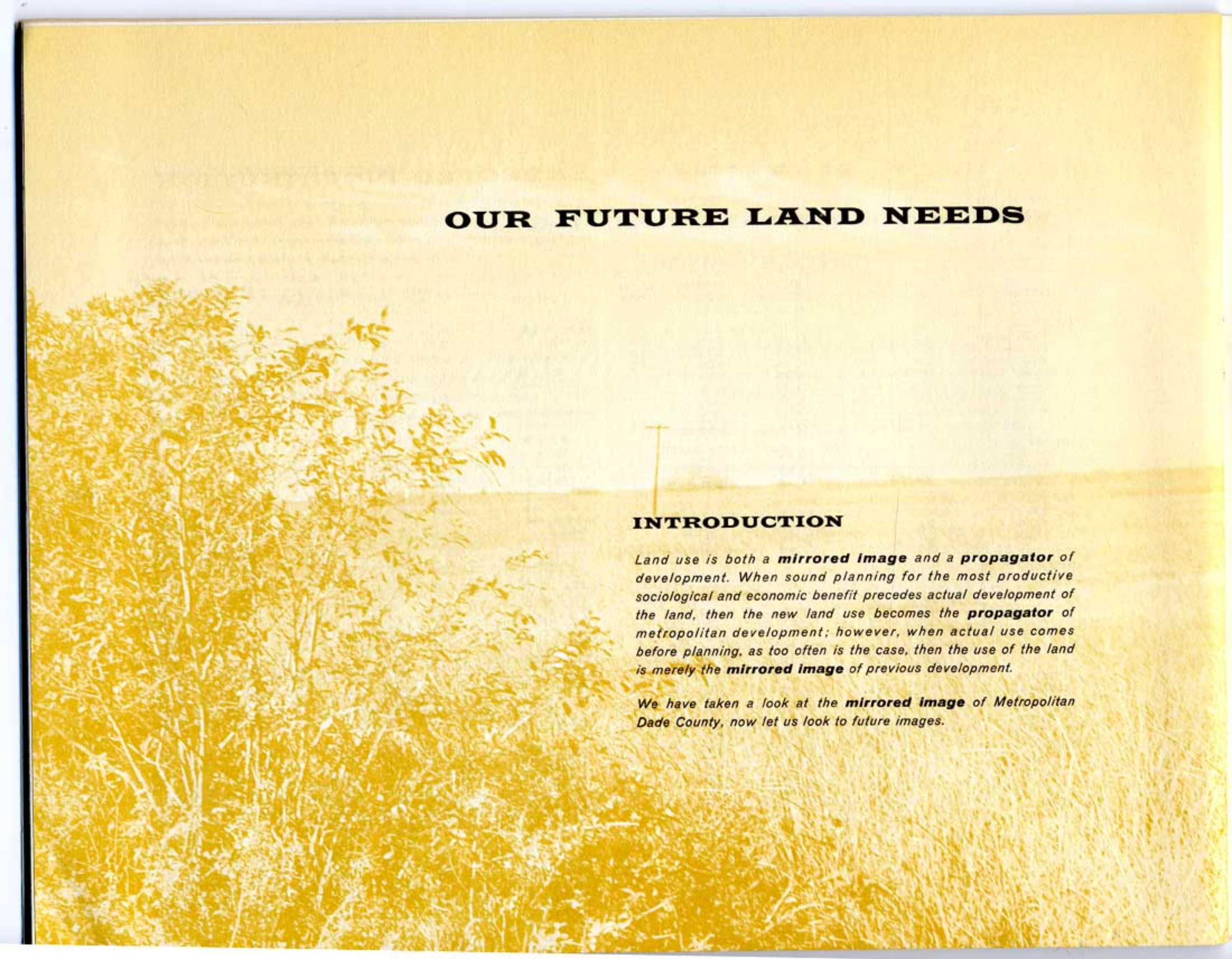
## NON-URBAN AREA LAND USES - 1960

CATEGORY	AREA IN SQ. MI. (ACRES)		% OF USE CATEGORY	% OF NON-URBAN AREA	NO. OF SQ. MI. ZONED*	CATEGORY	AREA IN SQ. MI. (ACRES)		% OF USE CATEGORY	% OF NON-URBAN AREA	NO. OF SQ. MI. ZONED*
<b>RESIDENTIAL</b>						<b>PARKS &amp; REC.</b>					
Single-family	6.3	(4,024)	91.5%	0.8%	41.4	Parks	0.3	(199)	56.2%	0.0%	
Two-family	0.1	(47)	1.1%	0.0%	3.2	Playgrounds	0.0	(2)	0.6%	0.0%	
Multi-family	0.0	(21)	0.5%	0.0%	1.2	Golf Courses	0.2	(113)	31.9%	0.0%	
Rooms	0.0	(00)	0.0%	0.0%		Cemeteries	0.1	(40)	11.3%	0.0%	
Camps	0.2	(142)	3.2%	0.0%		Total	0.6	(354)	100.0%	0.0%	
Trailers	0.0	(32)	0.7%	0.0%		<b>TRANSPORTATION</b>					
Mixed	0.2	(133)	3.0%	0.0%		Terminals	3.3	(2,093)	19.5%	0.4%	
Total	6.8	(4,399)	100.0%	0.8%	45.8	Railroads	0.9	(552)	5.2%	0.1%	
<b>COMMERCIAL</b>						Utility	0.5	(304)	2.8%	0.1%	
Commercial	0.6	(390)	91.2%	0.1%		Streets	12.1	(7,764)	72.5%	1.5%	
Mixed	0.1	(38)	8.8%	0.0%		Parking	0.0	(0)	0.0%	0.0%	
Total	0.7	(428)	100.0%	0.1%	2.1	Mixed	0.0	(1)	0.0%	0.0%	
<b>TOURIST</b>						Total	16.8	(10,714)	100.0%	2.1%	
Hotels	0.0	(4)	13.1%	0.0%		<b>AGRICULTURE</b>					
Motels	0.0	(21)	65.6%	0.0%		Groves	11.7	(7,482)	13.0%	1.5%	
Mixed	0.0	(7)	21.3%	0.0%		Crops	77.9	(29,835)	86.8%	10.0%	
Total	0.0	(32)	100.0%	0.0%	0.6	Mixed	00.2	(136)	0.2%	0.0%	
<b>INDUSTRY</b>						Total	89.8	(57,453)	100.0%	11.5%	131.7
Extraction	2.8	(1,797)	72.6%	0.4%	10.3	<b>WATER</b>					
Light Mfg.	0.0	(19)	0.8%	0.0%	7.3	Lakes	0.7	(421)	25.4%	0.1%	
Heavy Mfg.	0.6	(396)	16.0%	0.1%	16.5	Courses	1.8	(1,152)	69.6%	0.2%	
Light Storage	0.2	(157)	6.3%	0.0%		Bay	0.1	(83)	5.0%	0.0%	
Heavy Storage	0.1	(93)	3.7%	0.0%		Total	2.6	(1,656)	100.0%	0.3%	
Mixed	0.0	(16)	0.6%	0.0%		<b>UNDEVELOPED</b>					
Total	3.7	(2,478)	100.0%	0.5%	34.1	Vacant	332.8	(212,977)	50.5%	42.6%	
<b>INSTITUTIONAL</b>						Glades } Marsh }	325.7	(208,445)	49.5%	41.7%	
Education	0.3	(190)	20.7%	0.0%		Total	658.5	(421,422)	100.0%	84.3%	
Cultural	0.2	(101)	11.0%	0.0%		<b>TOTAL</b>	<b>781.0</b>	<b>(499,853)</b>	<b>100.0%</b>	<b>100.0%</b>	<b>**</b>
Medical	0.5	(312)	34.0%	0.1%							
Religious	0.1	(79)	8.6%	0.0%							
Public Adm.	0.3	(220)	24.0%	0.0%							
Penal	0.0	(10)	1.1%	0.0%							
Mixed	0.0	(5)	0.6%	0.0%							
Total	1.4	(917)	100.0%	0.1%							

\*These figures represent gross areas while figures of land use areas represent net areas.

"Mixed" category indicates two or more categories of the same use group on the same parcel of land.

\*\* No total can be given because not all of the non-urban area is zoned.



## OUR FUTURE LAND NEEDS

### INTRODUCTION

*Land use is both a **mirrored image** and a **propagator** of development. When sound planning for the most productive sociological and economic benefit precedes actual development of the land, then the new land use becomes the **propagator** of metropolitan development; however, when actual use comes before planning, as too often is the case, then the use of the land is merely the **mirrored image** of previous development.*

*We have taken a look at the **mirrored image** of Metropolitan Dade County, now let us look to future images.*

## LAND NEEDS

Economic growth is, of course, essential to support an expanding population. As the graph at lower right indicates, in 25 years Metropolitan Dade County will have 2 1/2 million residents—1,500,000 more than it has now. This invading army of newcomers will need:

- 93 square miles for homes
- 31 square miles for industry and commerce
- 34 square miles for streets and highways
- 38 square miles for park and institutional uses

... a total of 196 square miles of land. Of this area, 16 square miles will be within the present urban area. Our community does not have a choice of whether or not to provide this additional space. **FUTURE GROWTH WILL DEMAND IT!**

In 1960, the urban area of Dade County totaled 199 square miles. If 180 (196 less 16) square miles of urban development are added in the next 25 years, the grand total of urbanized area will soar to 379 square miles. **IS THERE ENOUGH LAND TO PROVIDE FOR THESE FUTURE NEEDS?**

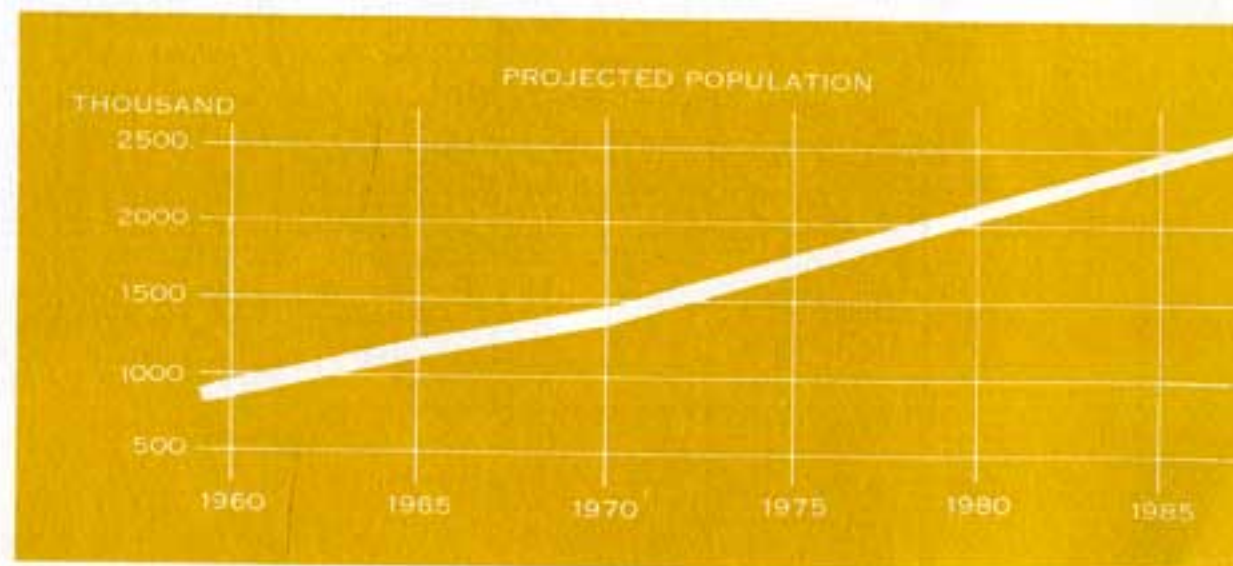
As mentioned previously, Metropolitan Dade County contains 2,352 square miles; however, 1,372 square miles or 58.3% of its area are not available for development. Another 326 square miles, although available, requires major fill or drainage improvements before it can be used. Thus, less than 28% of the total area is suitable and/or available for development.

The long-term limited availability of land in the County, combined with increasing demands on this land, clearly leads to the conclusion that **METROPOLITAN DADE COUNTY'S ABILITY TO ACCOMMODATE ITS FUTURE POPULATION WILL DEPEND UPON THE JUDICIOUS PLANNING AND USE OF ITS RESTRICTED LAND AREA.**

## EXPECTED DISTRIBUTION

The urban form that will best achieve Metropolitan Dade County's planning objectives is one having two cores — dual CBDs so to speak. The first and probably the foremost will be downtown Miami — the metropolitan core; the other will be located in the South Dade-Cutler Ridge area. This two core concept is developed and explained as part of the Planning Department's report "Preliminary Land Use Plan and Policies for Development." This new urban form also must provide:

- A containment of the fast spreading urban sprawl, moving in all directions from the Miami core, by establishing belts of low density land use around the existing fringe.
- A new focus on the Miami CBD which will stress the advantages of its central location and encourage more activities and higher densities within this core.
- Encouragement for developing the offshore Keys in conjunction with the South Dade core.



Much of the County's projected population growth is expected to take place within the existing urbanized area. Vacant and sparsely settled sections will be built-up, thereby increasing present low densities. The large influx of new residents will be accommodated as follows:

- 42% in the Miami core
- 18% in the fringe surrounding the Miami core
- 42% in the South Dade core

A new South Dade center, plus a revitalized Miami core, would exert a much stronger southern pull on the trend of development along the Gold Coast and will assist in strengthening the role of the Miami core area as the capital of Florida's "Gold Coast."

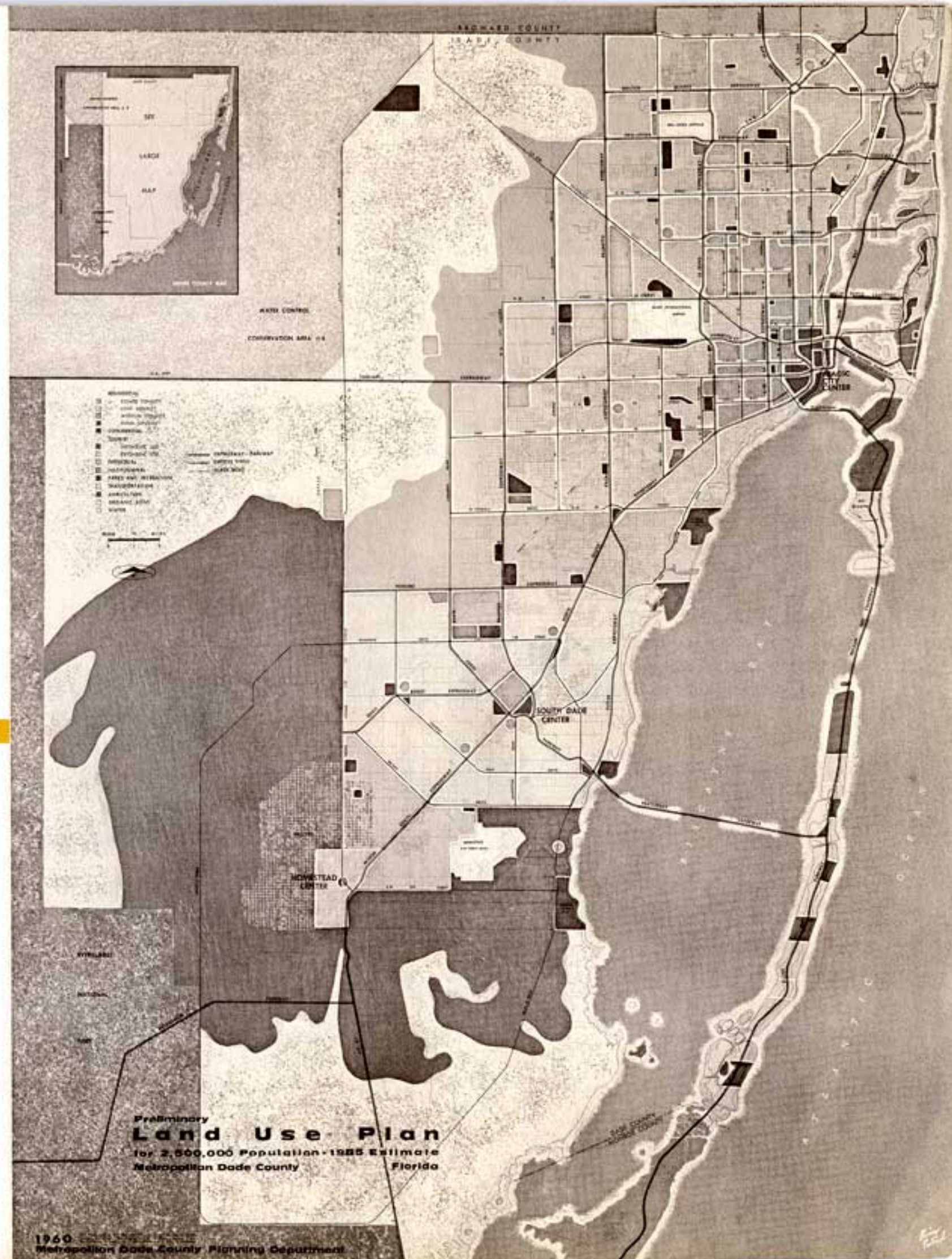
## **CORRECT MISTAKES OF THE PAST**

In few fields of endeavor are there more golden opportunities to learn from and profit by the mistakes of the past than in the field of urban planning. The county-wide land use survey sheds considerable light on Dade's mistakes, the more serious of which are listed below.

- a great overabundance of strip commercial uses
- 5 times more industrially zoned land that is being used by industry
- 3 times more commercially zoned land than is being used for business purposes
- "leap frog" development which has left much vacant land within the urban area
- a lack of water oriented recreation areas
- a lack of park and recreation facilities, both large and small
- too few people in certain areas to support a desirable level of municipal services

- street patterns not conducive to good livability
- manipulation of land use for speculative purposes rather than for sound growth

In the future, land use within the metropolitan area cannot be just a continuation, a mirrored image of present development. If it is, our economy will surely choke and stagnate. Land use must follow proper planning in order to obtain the greatest sociological and economic benefits necessary to maintain an expanding population. **IF THIS IS DONE, SOUND GROWTH WILL FOLLOW.**





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