

Forms for the drafting of many different complaints appear in this text.<sup>20</sup> A close examination of their construction should be of considerable value to counsel preparing a complaint in the still new field of environmental law. A point-by-point analysis of a specific complaint, this one against the proposed Big Cypress Swamp Jetport manufacturers of DDT, should also be of assistance.

DISTRICT COURT OF THE UNITED STATES  
*for the*  
DISTRICT OF SOUTHERN FLORIDA

individually and on behalf of all those entitled to the full benefit, use and enjoyment of the national natural resource treasure that is the Everglades National Park without degradation or diminution in value resulting from operation or development of the *Big Cypress Swamp Jetport*, and all others similarly situated, not only of this generation, but of those generations yet unborn,

*Plaintiff*

v.

JOHN A. VOLPE, Secretary of Transportation of the United States of America, and

DADE COUNTY, FLORIDA Board of County Commissioners, Acting as Dade County Port Authority County Court House, Miami, Florida,

*Defendants*

**Amended Complaint**

**Case No. 70-128**

YANNACONE & YANNACONE

*Attorneys for Petitioners*  
Office and Post Office Address  
39 Baker Street  
Post Office Drawer 109  
Patchogue, New York 11772  
Area Code 516 GRover 5-0231

### TABLE OF CONTENTS

1. Venue
2. Jurisdiction—Title 28 United States Code § 1331(a)
3. Jurisdiction—Title 28 United States Code § 1343
4. Jurisdiction—Title 5 United States Code § 702(a)
5. Class Action
6. Declaratory Judgment
7. The Everglades Regional Systems

20. See §§ 17 (trust doctrine); 24 (Ninth Amendment); 35 (public nuisance); 58, 59 (airport noise); 84 (water pollution); 99 (air pollution); 122, 123, 124 (pesticides and herbicides); 139 (nuclear detonation); 161 (mismanagement of public lands); 164 (Outer Continental Shelf Lands Act); 165 (waste of public property); 182 (DDT); 205 (Army Corps of Engineers); 211 (billboard construction); 214 (highway construction).

- (a) Land Relief
  - (b) Physiographic Provinces, Vegetation
  - (c) Geology, Soils
  - (d) Hydrology
  - (e) The *Big Cypress* System
  - (f) Everglades System Dynamics
  - (g) Everglades Drainage History
  - 8. South Florida Air Traffic
  - 9. Defendants' Actions
    - (a) Airport Siting
    - (b) The *Big Cypress* Jetport
    - (c) Navigation Aids
    - (d) The Training Facility—*Phase 1*
    - (e) Cargo Handling—*Phase 2*
    - (f) Collateral Development—*The Transportation Corridor*
    - (g) Collateral Development—*The Region*
  - 10. Effects of Defendants Actions
    - (a) Water Pollution
    - (b) Pesticide Contamination
    - (c) Air Pollution
    - (d) Wildlife Danger
    - (e) Noise
    - (f) Bird Strikes
    - (g) Indian Tribes
    - (h) Fire and Smoke
  - 11. Plaintiffs Complain:
  - 12. Equitable Jurisdiction
- Prayer for Relief

**Comment:**

Any complaint exceeding twenty pages in length should have an index, which should serve two purposes: first to briefly outline the cause of action set forth in the complaint and second to serve as a ready reference to the Court.

**Amended Complaint**

Case No. 70-128

The plaintiff individually and on behalf of all those entitled to the full benefit, use and enjoyment of the national natural resource treasure that is the Everglades National Park, complaining of the Defendants by his attorneys, YAN-NACONE & YANNACONE

sets forth and alleges, in this amended complaint incorporating all allegations of the original complaint:

**1. Venue**

The venue of this action is determined under Title 28, United States Code, §§ 1391(b), 1391(e).

**Comment:**

It is manifest that a carefully formulated choice of place of trial, within the range of alternatives available under prevailing law, may be an exceedingly significant tactical decision. The rather surprising volume of appellate litigation involving venue issues attests to the strength of this proposition.



The alternatives that are available, however, often cannot be rationally appraised except in relation to the remedial theory of the action and potential procedural variations susceptible of being elected in the complaint. To adopt a theory of recovery, to select a remedy, determine the parties to be joined, or prepare the complaint before adequate attention has been devoted to the problem of venue and choice of place of trial is to choose blindly—for then the correct venue will, in many if not all cases, be determined by the pleading decisions already made. The choice of pleading theory should in many instances be influenced by preliminary venue determinations and designed to achieve a selected venue objective.

## 2. Jurisdiction

Jurisdiction of this Court is invoked under Title 28, United States Code, § 1331(a). “The district courts shall have original jurisdiction of all civil actions wherein the matter in controversy exceeds the sum or value of \$10,000, exclusive of interest and costs, and arises under the Constitution, laws or treaties of the United States.”

### Comment:

The first paragraphs in any complaint filed in the federal district court on diversity of citizenship grounds should concern itself with a statement of this jurisdictional basis. This should be done carefully. The complaint must allege the citizenship of each of the parties, the principal place of business of corporations, and the fact that the case involves a sum in excess of \$10,000, exclusive of interest and costs. It is not sufficient to state that a litigant is a resident.

If the plaintiff fails to set forth the jurisdictional grounds, the question is often raised whether he will be given leave to amend. In almost all cases, leave is given to amend a complaint to show the jurisdictional basis.

This action arises under Article VI, section 2, of the Constitution of the United States, “This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every state shall be bound thereby; any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.” and involves the declaration and interpretation of the rights of the plaintiff and all the People of the United States secured by the Ninth Amendment of the Constitution of the United States, “The enumeration in the Constitution of certain rights, shall not be construed to deny or disparage others retained by the people.” and under the *due process* clause of the Fifth Amendment to the Constitution of the United States, “. . . nor shall any person . . . be deprived of life, liberty or property, without due process of the law; . . .” and under the *due process* and *equal protection* clauses of the Fourteenth Amendment of the Constitution of the United States, “. . . No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.” and the matter in controversy, exclusive of interest and costs, exceeds the value of Ten Thousand (\$10,000.) Dollars.

**Comment:**

A suit arising under the Constitution, laws or treaties of the United States is governed by certain fundamental principles. As diversity of citizenship is not required in these cases, actions may be maintained between citizens of the same state. However, an action to enforce a right created by a law of the United States will only arise when the controversy depends upon the construction given such a law. In other words, a federal question must be directly involved in the controversy.

In pleading a federal question, the complaint must show that plaintiff's cause of action is based upon the Constitution, laws or treaties of the United States. He cannot invoke federal jurisdiction by alleging that some anticipated defense involves the Constitution and the laws of the United States.

**3. Jurisdiction**

Jurisdiction of this Court is also invoked under Title 28, United States Code, §1843:

The district courts shall have original jurisdiction of any civil action authorized by law to be commenced by any person: . . .

(3) To redress the deprivation, under color of any State law, statute, ordinance, regulation, custom or usage, of any right, privilege or immunity secured by the Constitution of the United States or by any Act of Congress providing for equal rights of citizens or of all persons within the jurisdiction of the United States;

(4) To recover damages or to secure equitable or other relief under any Act of Congress providing for the protection of civil rights. . . ."

This action is authorized by Title 42, United States Code, §1983: "Every person who, under color of any statute, ordinance, regulation, custom, or usage, of any State or Territory, subjects or causes to be subjected, any citizen of the United States or other person within the jurisdiction thereof to the deprivation of any rights, privileges or immunities secured by the Constitution and laws, shall be liable to the party injured in an action at law, suit in equity, or other proper proceeding for redress."

**Comment:**

Continued assertion by environmental advocates of the Civil Rights Act as a source of federal jurisdiction in environmental litigation strengthens the position that environmental rights are an extension of already recognized civil rights and a step toward judicial protection of fundamental human rights.

**4. Jurisdiction**

Jurisdiction of this court is invoked under Title 5, United States Code, § 702(a): "Any person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof." and the statutes relevant to this proceeding are Title 16, United States Code, §§ 1, 410, 410c, 410n:

"There is created in the Department of the Interior a service to be called the National Park Service, which shall be under the charge of a director. The Secretary of the Interior shall appoint the director, and there shall also be in said service such subordinate officers, clerks, and employees as may be appropriated for

by Congress. The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified, as provided by law, by such means and measures as conform to the fundamental purpose of the said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein by such means as will leave them unimpaired for the enjoyment of future generations."

"When title to all the lands within boundaries to be determined by the Secretary of the Interior within the area of approximately two thousand square miles in the region of the Everglades of Dade, Monroe, and Collier Counties, in the State of Florida, recommended by said Secretary, in his report to Congress of December 3, 1930, pursuant to the Act of March 1, 1929 (45 Stat. 1443), shall have been vested in the United States, said lands shall be, and are, established, dedicated, and set apart as a public park for the benefit and enjoyment of the people and shall be known as the Everglades National Park: *Provided*, That the United States shall not purchase by appropriation of public moneys any land within the aforesaid area, but such lands shall be secured by the United States only by public or private donation."

"The said area, or areas shall be permanently reserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area."

"Unless the Secretary, after notice and opportunity for hearing, shall find that the same is seriously detrimental to the preservation and propagation of the flora or fauna of Everglades National Park, he shall permit such drainage through the natural waterways of the park and the construction, operation, and maintenance of artificial works for conducting water thereto as is required for the reclamation by the State of Florida or any political subdivision thereof or any drainage district organized under its laws of lands lying easterly of the eastern boundary of the park in township 54 south, ranges 31 and 32 east, township 55 south, ranges 32 and 33 east, and township 56 south, range 33 east. He shall grant said permission, however, only after a master plan for the drainage of said lands has been approved by the State of Florida and after finding that the approved plan has engineering feasibility and is so designed as to minimize disruptions of the natural state of the park. Any right-of-way granted pursuant to this section shall be revocable upon breach of the conditions upon which it is granted, which conditions shall also be enforceable in any other appropriate manner, and the grantee shall be obligated to remove its improvements and to restore the land occupied by it to its previous condition in the event of such revocation."

and Title 49, United States Code §§ 1651, 1653(f):

"The Congress hereby declares that the general welfare, the economic growth of the Nation and its security require the development of national transportation policies and programs conducive to the provision of fast, safe, efficient, and convenient transportation at the lowest cost consistent therewith and with other national objectives including the efficient utilization and conservation of the Nation's resources. . . .

"It is hereby declared to be the national policy that special effort would be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

"It is hereby declared to be the national policy that special effort should be made to preserve the natural beauty of the countryside and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States in developing transpor-



tation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed. After August 23, 1968, the Secretary shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance as determined by the Federal, State or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife area, wildlife and waterfowl refuge, or historic site resulting from such use."

**Comment:**

In pleading jurisdiction the environmental advocate should always plead relevant statutes in full. Never assume that the court will have the full text of the statute at hand when considering a case of first impression from the bench on a preliminary hearing. Also keep in mind that as an attorney, you may only comment on the case to the press in terms of the filed pleadings. Make sure that everything you may wish to have the public consider and understand is pleaded in full.

When pleading the Administrative Procedure Act as an element of jurisdiction see to it that the statutes concerning the subject matter of the complaint are pleaded as furnishing the substantive basis for procedural jurisdiction under the A.P.A.

**5. Class Action**

This action is brought by the plaintiff on behalf of all those entitled to the full benefit, use and enjoyment of the national natural resource treasure that is the Everglades National Park.

The members of this class are so numerous as to make it impracticable to bring them all before this Court. There are substantial questions of law and fact common to the class and common relief on behalf of all members of the class is sought.

The claims of the representative are typical of the claims of the members of the class, and the Defendants' actions have substantial effect upon all members of the class, and thereby make appropriate final injunctive and corresponding declaratory relief with respect to the class as a whole, as a proper class action under Rule 23 (b) (2), Federal Rules of Civil Procedure.

The prosecution of separate actions by individual members of the class would create the risk of inconsistent or varying adjudications with respect to individual members of the class which would establish incompatible standards of conduct for the defendants, so that this action is a proper class action under Rule 23 (b) (1) (A).

Adjudication with respect to individual members of the class would, as a practical matter, be dispositive of the interests of the other members of the class not party to this litigation so that this action is a proper class action under Rule 23 (b) (1) (B).

The members of the class are fairly and adequately represented by this plaintiff and the plaintiff has no interest adverse to that of any individual who might be entitled to the relief sought herein.

**6. Declaratory Judgment**

This is a proceeding for a Judgment declaring the rights and legal relations

of the parties to the matter in controversy, under Title 28, United States Code, §§ 2201, 2202, specifically,

(a) Declaring

the rights of the people of the United States in and to the full benefit, use and enjoyment of the Everglades National Park without degradation and diminution in value from the acts of the Defendants.

(b) Declaring

that the Defendants' actions violate the rights of the plaintiff and all the people of the United States not only of this generation but of those generations yet unborn, similarly guaranteed under the Ninth Amendment of the Constitution of the United States and protected by the *due process* clause of the Fifth Amendment of the Constitution of the United States and by the *due process* and *equal protection* clauses of the Fourteenth Amendment of the Constitution of the United States.

**Comment:**

The flexibility of declaratory relief suggests numerous situations in which it may prove to be the most useful tactical approach to jurisdictional planning of the action. But care must be employed to see to it that the complaint clearly proceeds as one primarily for a declaration of rights. Merely to append a prayer for declaratory relief as an afterthought in a complaint for damages may be ineffective for jurisdictional limitations are ordinarily determined by the substance of the complaint taken as a whole, and not by merely "incidental" demands.

In any action involving an environmental toxicant, particular environmental degradation or damage to a natural resource, describe the regional ecological systems at length and in sufficient detail to form the basis for any hypothetical question you might have to ask an ecologist as an expert witness. As in this example, try to obtain the facts for such a description from an authoritative government publication. If the allegations are denied in the answer the author of the publication or the responsible representative of the government agency can be subpoenaed to testify on a preliminary hearing or the trial of the action.

The environmental advocate should never hesitate to plead what might be generally considered evidence in describing a regional ecological system or the specifics of environmental degradation. If the defendant wishes, a motion can always be made to strike the evidentiary material, and if the pleading offends the sensibilities of the court, the offensive material can always be stricken by the court on its own motion. Trial strategy in environmental litigation mandates that the entire substance of the plaintiff's case be set forth fully and at large in the initial pleadings, preferably in the complaint rather than in supporting affidavits. Only in this way can an appellate court be presented with a proper record should a lower court summarily dismiss the action without a hearing on the merits.

## **7. The Everglades Regional Systems**

### **(a) Land Relief**

The Okeechobee-Everglades and Big Cypress drainage basins occupy about 70% of the coastal lowland of south Florida. The highest elevations in this lowland are about 20 feet above mean sea level. These occur along the north shore of Lake Okeechobee and on the sandy coastal ridge of the west coast. Between the west coast ridge and a lower ridge bordering the east coast the Okeechobee-

Everglades and Big Cypress basins slope gently south and southwest from Lake Okeechobee for a distance of about 100 miles to Florida Bay and the Gulf of Mexico.

Lake Okeechobee averages 14 to 15 feet in depth with its bottom lying at mean sea level. The original southern (muck) rim of the lake ranged from about 14.5 to 21 feet above mean sea level. From Okeechobee to Florida Bay the seaward slope of the land averages about one foot to every six miles, or two inches per mile.

The extreme flatness of this land has three effects which are important to the ecology of the area. First, fresh water run-off from north to south is exceedingly slow, being of the order of one half mile per day. This is critically important to Everglades National Park, because the period of wetness (the hydroperiod) in the park is thereby extended 3 or 4 months beyond the actual rainfall period.

Second, the flatness of the basin results in the distribution of shallow sheets of water over very large areas. Drainage which lowers surface water even a few inches can dry thousands of acres. Conversely, raising water levels a few inches by means such as pumping, can inundate thousands of acres.

Third, the nearly horizontal plane of the basin intersects the plane of sea level at an almost imperceptible angle. The consequence of this is that minor variations in sea level will affect the line of salt water penetration over a broad zone of the shore. Penetration inland with a rising sea level will be even greater when the head of fresh water is low. Forces affecting penetration of sea water also include sea level changes due to lunar effect, and winds including hurricanes, as well as the presence or absence of fresh water run-off.

#### (b) Physiographic Provinces, Vegetation

In the 4,000 square mile Everglades Province, sawgrass comprises 65% to 70% of the vegetation. Wet prairie and slough communities occupy the deepest channels. Interspersed through the Everglades are tree islands containing a mix of species such as wax myrtle, bay, hackberry, wild tamarind, cabbage palm and occasional oaks. These occur where there is enough height above the perennial water table to allow some soil aeration, usually only 1 to 2 feet above the level of sawgrass.

The vegetation of the 1,200 square mile Big Cypress Swamp differs considerably from that of the sawgrass Everglades, even though both areas are parts of a single ecological entity. In the Big Cypress, large trees, open elongated forests of medium-sized trees, and large areas of stunted cypress grow in marsh-like, seasonally flooded prairie. Cypress does not cover all of the region for there are some areas of higher pineland and wet prairie.

The 1,300 square mile coastal mangrove zone consists largely of red mangroves, with black and white mangroves and buttonwood making up the bulk of the remaining vegetation.

The coastal ridges once supported typical upland vegetation, principally pine forests with scattered hardwood hammocks, but little of the original vegetation remains.

#### (c) Geology, Soils

The Florida Everglades basin is underlain chiefly by limestone. There are two contemporaneous formations. The highly porous Miami Oolite, with large eroded surface areas of pinnacle rock, underlies the east half whereas the harder, less porous, Tamiami formation underlies the west half, including the Big Cypress.

A thin blanket of gray calcareous marl covers vast areas of these formations. In the upper glades, beds of peat and muck have built up over the marl. In the



lower glades, the marl is often the only covering over the limestone, or is interbedded with layers of peat, or underlies thin layers of peat.

The peat and muck soils overlying the limestone average about 7 feet deep over large parts of the agricultural area in the northern Everglades, thinning to 2 to 3 feet near the north levee of Conservation Area No. 3 and feathering to nearly nothing a few miles south of the Tamiami Trail. Peat and muck materials occur irregularly in pockets in the limestone south of the "feather edge." In the coastal mangrove zone, peat of sawgrass and mangrove origin lies in deeper beds that are often interbedded with marls.

Peat and muck formations of the Everglades play a major role in prolonging the duration of the hydroperiod by storing water and helping to maintain high water tables in the region.

#### (d) Hydrology

Summer thunderstorms, of marine origin, produce the highly erratic seasonal rainfall and runoff characteristic of south Florida. Winter and spring normally constitute the dry season. In the summer and fall, hurricanes and tropical storms often produce exceptional rainfalls, sometimes as much as 20 inches within a 48-hour period. The rainfall averages 57.0 inches per year in the Big Cypress and lower Everglades. The monthly rainfall, on the average, ranges from a low of 1.0 inch in December to 9.7 inches in September. About 85 percent of the rainfall occurs from May to October.

High temperatures and humidities are characteristic of the area. Temperatures are moderately high from May through September and moderate the rest of the year with occasional light frosts during the winter months. Monthly averages range from 68 degrees Fahrenheit in December to 85 degrees in August. Year-round the relative humidity varies from about 50 percent during daylight hours to nearly 100 percent at night.

A highly significant climatological-ecological factor in the Everglades and Big Cypress basins is the large evapo-transpiration loss which consumes about 75 percent to 95 percent of the annual rainfall. In some years, evapo-transpiration exceeds rainfall.

As an indication of the existing general quality of the fresh water in the Everglades National Park, the range and median values of nitrate, sulfate, calcium, dissolved solids, and iron from three regions within the park were compared with values from various waters of the United States that support a mixed fish fauna. These five dissolved chemical constituents become pollutants when their concentrations become excessive. The median value of concentrations of the five constituents at Tamiami Canal and Taylor and Shark River sloughs are lower in every instance than they were in 95 percent of the comparative United States waters.

Background levels of total nitrogen and total phosphorus in the northern part of the Everglades National Park average, respectively, 1.0-5.0 ppm nitrogen and 0.01-0.50 ppm phosphorus. Findings of the Florida Game and Fresh Water Fish Commission in the upper St. Johns River marsh area in 1965, confirm equally low levels of both nitrogen and phosphorus in comparable habitats.

#### (e) The *Big Cypress* System

The Big Cypress is a wilderness area of sloughs, cypress strands, pine islands, and hammocks, roughly 30 by 40 miles in extent and located west of the Everglades, principally within Collier County. It is an intricate mosaic of marsh and lowland forest types. The pattern of this mosaic is determined mainly by the length of the hydroperiod and the frequency of fire at a given site.

The major forest types are bald cypress, slash pine, cabbage palm, and mixed

hardwoods. The important herbaceous types include the sawgrass marshes, usually with a scattering of small cypress trees, and mixed grass-sedge marshes that are located on higher ground and contain no sawgrass. These latter mentioned areas are generally known as prairies.

The predominance of cypress gives the area its name, although much of the cypress has little timber value. It is generally small in size and found in low densities on areas that are marginal for mature cypress growth due to thin soil and frequent fire. Locations characterized by deeper soil and a longer hydroperiod support forests of large cypress trees. These occur as linear belts along drainage sloughs (cypress strands), and as islands that are known locally as cypress heads. The latter commonly indicate the locations of depressions in the underlying limestone.

Cypress of commercial size was lumbered in the 1940's and early 1950's. Some cutover areas show good regeneration. Others, where severe fires followed lumbering, now have dense growth of willow and red maple brush. Stands of custard apple and pop ash forest with abundant epiphytes often occur around permanent ponds within the cypress heads and strands. At places, belts of swamp hardwood species including bay, magnolia, red maple and cocoplum, form an outer zone bordering the cypress strands.

One strand is particularly important. It carries the name Fahkahatchee. It is the major drainage slough of the southwestern Big Cypress and supports a mixed stand of cypress and native royal palm, a forest type which is unique on earth.

Pine forests of the Big Cypress occupy sites that are slightly higher and consequently have a shorter hydroperiod and higher fire frequency. The more accessible stands of pine were also cut over in the early 1950's. Cabbage palms are commonly mixed with pines in open stands or as island groves in the prairies.

A mature upland hardwood forest is developed in only a few scattered hammocks whose slight topographic elevation minimizes flooding. These areas are often surrounded by sloughs which reduce the likelihood of fire. In this forest type, West Indian trees such as gumbo limbo, wild tamarind, mastic and Jamaica dogwood share dominance with oak, hackberry, red mulberry and other more common trees of the southeastern United States. Vegetation found in the immediate area of the jetport consists primarily of small cypress growing in sawgrass marsh, with numerous cypress heads and occasional hardwood hammocks also present.

Most of the Big Cypress has been little disturbed by people and within it are nearly all of the wildlife species native to semi-tropical Florida. The entire area is low and flat and experiences extreme seasonal variation of surface water levels. During the summer most of the ground surface of the Big Cypress is inundated by a shallow sheet of water. In the usual winter-spring dry season, however, surface water is restricted—as it is in the Everglades—to a few ponds and sloughs. Wildfires at this time are often frequent and widespread.

Because access to much of the Big Cypress is difficult, botanical exploration of the area is still incomplete. The area is known to include a number of species found nowhere else in the United States. Florida Royal Palms are still relatively common in the Fahkahatchee Strand, despite the removal of many trees for landscaping in southern Florida cities. Elsewhere this palm occurs naturally only as small stands at three locations in Everglades National Park where its presence is believed due to the activities of aboriginal Indians. Wright's palm, a tropical species with a limited range in Florida, is found along the fringes of the Fahkahatchee Strand. A botanical feature of major interest in the Big Cypress is the abundance and diversity of epiphytic plants that is unmatched outside the tropics. These "air plants" include some 25 species of orchid, 3 species of peperomia, 12 species of bromeliads (wild pineapples) and about 15 species of epiphytic ferns.

About 10 orchids and several plants of other groups are species unknown in the United States outside the Big Cypress. Although the native epiphytes are under protection by Florida law, large scale collecting by private enthusiasts and commercial dealers has seriously depleted many areas.

The Big Cypress may well be thought of as an aquatic rather than a terrestrial environment. Water levels are above the ground surface about 70 percent of the time in low-lying areas and over most of the areas 3-4 months in the normal year. The surface drainage features convey water to the estuaries that lie to the west and southwest of the Big Cypress. As in other parts of this vast, flat land, drainage patterns are not easily definable. In the vicinity of the jetport overland flow to the south begins at a very low drainage divide about 7 miles north of the Tamiami Trail. At present, an east-west levee, about 3.5 miles long, roughly parallels this low ridge. The land contours, in the vicinity of the jetport, show the irregularities of the surface. In this area the gradient of the water surface approximates the slope of the ground surface and drops on the average about 5 inches per mile as one proceeds south. The overland flow is intercepted by the Tamiami Canal and then flows eastward or westward in the canal to the nearest culvert under the Tamiami Trail (U.S. Highway 41) most of which are spaced at about one-mile intervals. After flowing through a culvert, the water spreads out and continues its sheet flow in a southerly or southwesterly direction into the estuaries of Everglades National Park.

The most important fact about the Big Cypress Swamp is that it is an integral part of the biological functioning of the south Florida ecosystem. Many animal species are sufficiently mobile to utilize the whole region of Everglades, cypress swamp and mangrove coastal glades at some time during their life cycle.

#### (f) Everglades System Dynamics

In the fresh water zone, hammocks or small islands of trees, stand one or two feet above the surrounding land and are usually bordered by much larger areas of sawgrass and wet prairie. Within 5 to 10 miles of the coast the vegetative zonation is quite different, being affected materially by seasonal penetration of salt water from the Florida Bay and the Gulf of Mexico. There the sawgrass tends to be replaced by salt tolerant woody plants such as mangroves.

Hammocks are elevated only one to two feet above the adjacent sawgrass. Because of the small differences in elevation of the terrain, seasonal changes in water levels result in widespread inundation, alternating with widespread drying in which only the holes and ponds retain water.

The limestone base in the Everglades is very porous. As water levels rise or fall, they do so freely.

South Florida has a relatively long dry season in winter and spring, despite the intense rains of summer. Not enough rain falls on the average during the summer to maintain surface waters in the dry season, owing to heavy evapo-transpiration losses. Any particular region may experience a water deficit during the normal 6 months dry season and must depend on other regions for water to offset its scarcity.

Under original conditions the overflow from Lake Okeechobee moved southward in the Everglades as a thin sheet of water over vast areas. This overflow was prolonged by the large amount of water from the Kissimmee River which drained into the lake. The overflow from the lake provided water needed to overcome the evapo-transpiration deficit in the southern Everglades and to maintain its hydroperiod which originally was 9 months or longer in duration in average years.

During the normal rainy season, June through October, production of fishes, crustaceans, etc., in the aquatic communities is at maximum. Water levels nor-



mally remain high through November and then begin to decline gradually in the marshes, prairies, and glades areas. In the period March through May the water levels reach their lowest point. At this time aquatic animals become concentrated in the deeper depressions. Some of these are holes that alligators dig and maintain as their dry season refuges. Others are topographic depressions, such as solution holes in the limestone, or depressions formed where wildfires have burned out deep pockets of peat. Such holes are critical to the Everglades ecosystem, because they are the refuges in which necessary broodstocks of small fishes, crustaceans, and other aquatic animals survive the dry season. The drastic reduction of the alligator population by poaching has greatly decreased the number of drought survival holes available to smaller organisms.

When the water table gets too low, peat dries and is subject to deep burning by wildfires; alligators become easily accessible and poaching increases; the area and volume of water to sustain the small aquatic organisms that form the base of the food chain is restricted and the population of such creatures decreases radically; water needed to sustain fishes, alligators, and other species is available only in the deeper depressions; the oxygen content of the water in these holes is depleted due to organic decomposition and fish kills result.

On the other hand, excessively high water also has adverse effects: alligator nests are flooded and the eggs fail to hatch; terrestrial animals such as deer and wild hogs are forced to compete for space and food on the few areas remaining above water.

A balance, at optimum range, of water levels is clearly required in the glades. In the summer wet period, extensive areas must be inundated to permit the expansion of the aquatic populations—phytoplankton, crustaceans, and fishes. Subsequently, water levels must recede to concentrate the summer production of food organisms sufficiently. This supply of food is essential for the nourishment of the larger fishes, amphibians, reptiles, mammals, and many marine fishes, including snook, tarpon, and mangrove snapper seasonally invade the brackish and even fresh waters of the lower Everglades to utilize this supply of food.

This seasonal wet-dry cycle must coincide with the natural reproductive cycles of the predatory fishes, amphibians, reptiles, birds, and mammals that feed upon small aquatic animals. Otherwise, the reproduction of these larger animals at the top of food chains will fail. Excessively high or low water can cause reproductive failure.

Severe drought in the spring of 1965 eliminated most survival holes for small aquatic life and recovery of these populations was slow when the area flooded again in the summer and fall of 1965. Consequently, fish populations did not reach sufficient density to support successful wood ibis nesting in the following winter-spring dry period and the colonies in Everglades National Park produced only a few young. With much less severe drought in the spring of 1966, aquatic populations started from a higher base, built up to much greater densities, and wood ibis nested successfully in the winter of 1966-67.

The Everglades vegetation also is highly dependent upon the seasonal fluctuations of water levels. Alterations in the regime of wet-dry conditions have already produced changes in major vegetation types.

Before the advent of man, fire probably played an important part in maintaining the ecosystem. Lightning fires were probably frequent during the dry system but usually did not burn down into the peat. The usual fires probably burned only the above ground parts of the sawgrass. The roots were protected by the moist peat in which they rested. Only in exceptionally dry years did the peat dry sufficiently to burn at depth. In instances when the peat is ignited, fires burn until the peat is consumed or rising water of the succeeding rainy season puts out the fire. This wildfire factor is also believed to have been important in main-

taining many other ecosystems such as the almost treeless prairies of the west and the jackpine forests of the north.

The interplay of fresh water run-off and tides, both lunar and wind, is very critical in the mangrove-estuarine zone. An obvious example of this is the salt-tolerant vegetation along the coast. Not so obvious, but well demonstrated is the dependency of hundreds of marine species on this brackish area. Typically, the marine species occupy the area as juveniles, taking advantage of the protection it affords them by lowered salinities, grass communities and mangrove roots. The area also supplies a vital source of food as discussed later in the section on the coastal-mangrove zone. Its production of marine species constitutes a resource of tremendous value throughout the Florida Keys.

#### (g) Everglades Drainage History

For more than 5000 years water that accumulated seasonally on the Kissimmee prairies flowed via the Kissimmee River into Lake Okeechobee. At times the lake spilled over its southern rim and this flow together with local rainfall commenced the almost imperceptibly slow journey south through the Everglades, eventually to pass through the coastal zone to Florida Bay and the Gulf of Mexico. The Kissimmee River-Lake Okeechobee-Everglades drainage area tributary to the present Everglades National Park originally encompassed about 9000 square miles.

The literature of the mid-1800's refers to a century-old tradition that draining of the Everglades was contemplated and indeed undertaken by either the Spanish government or an association of Spanish subjects in Cuba. During the war with the Seminoles (1836-1842), a canal was found on the northeast shore of Lake Flirt (now drained and farmed) leading to the prairie of Lake Hicpochee and in the direction of Lake Okeechobee, a work believed to have been too large to have been undertaken by the early Indians of Florida.

Shortly after attaining statehood in 1845, Florida requested Congress to undertake a survey of the Everglades with a view to reclamation. Buckingham Smith, a prominent citizen of St. Augustine, at the direction of the Secretary of the Treasury undertook a reconnaissance of the Everglades and submitted a report (1848) indicating optimism on the matter of drainage of the vast area. Smith further stated that such an undertaking if successful would be of great benefit to the country. Under the provisions of the Federal Swamp and Overflow Lands Act of 1850, Florida received some 10,000,000 acres of swamp and overflowed lands, among which was included the Everglades. In 1851 the Florida Legislature passed an act accepting the grant and providing for a board of internal improvement. In 1855, the Florida Legislature passed a new act creating the Trustees of the Internal Improvement Fund, the main trust being the drainage and reclamation of swamp and overflowed lands.

During the next 25 years little progress was made toward accomplishing what both Federal and State governments considered to be of great importance in the development of Florida. The first comprehensive drainage plan was implemented by a contract entered into between the Trustees of the Internal Improvement Fund and Hamilton Disston, on February 26, 1881. This contract envisioned the permanent lowering of Lake Okeechobee and lakes in the headwaters of the Kissimmee River. It was believed this would also result in lowering water levels in the Everglades along the southern rim of the lake. It should be noted that the lowering of Lake Okeechobee was the point of this whole drainage scheme. Disston's efforts for the next several years centered in the upper Kissimmee River basin although his dredgmen first attempted to lower the lake by cutting canals from the Caloosahatchee River to Lake Flirt; and from Lake Flirt to Lake Hicpochee and thence into Lake Okeechobee. These canals which varied from 24 to 46 feet in width and from 4 to 10 feet in depth were probably completed by 1885. Some attempts were made to divert water from the lake to the area of the Big

Cypress west of the Everglades. Disston's channel to the Caloosahatchee River represents the first reduction in natural flow to the present Everglades National Park.

By 1905, it was apparent that efforts to drain and reclaim the lands, under the jurisdiction of the Trustees since 1855, were in essence ineffectual, if not a total failure. The Florida Legislature created the Everglades Drainage District in 1905 and for the next two decades, amid controversy as to methods, canals were dug and levees built.

It was during this period that three small coastal rivers—Hillsborough, North New River and Miami—were extended into the Everglades and connected with Lake Okeechobee. Two overland canals—the West Palm Beach and St. Lucie—were dug from the lake to tidewater. These channels across the ancient floodway of the Everglades and the canals intercepted or reduced the normal southward flow and moved it away from the present park area and to the ocean. The third major disruption in the park's water supply resulted from the construction of levees around the southern perimeter of Lake Okeechobee between 1921 and 1926.

A need for these levees arose when drainage of the Everglades along the southern rim of the lake resulted in general subsidence of peat to 4.5 feet below the original natural elevation.

In 1926 and again in 1928, severe hurricanes passed over Lake Okeechobee and the poorly constructed levees failed to withstand the wind tides that these storms generated. Immense volumes of water swept into the Everglades farming area causing great loss of life and extensive property damage.

As a result of these disastrous storms the first Federal water control program for the area was initiated. The Corps of Engineers began the construction of improved outlet works and protective levees at Lake Okeechobee. These works were completed about 1937.

While the Lake Okeechobee levees prevented reoccurrence of the 1926 and 1928 disasters, they also forever blocked the natural flow of water from the far reaches of the Kissimmee River through the Everglades to the park. The water which once flowed south toward Florida Bay was now diverted to the Gulf of Mexico and the Atlantic Ocean via canals and canalized rivers. Land which was historically inundated by water spilling out of the Lake Okeechobee basin was now deprived of excess water and began to dry. As it dried the danger of fire increased. By the early 1940's great areas of the Everglades were afire and in many areas the peat soil cover had been destroyed leaving bare rock exposed. In other areas peat subsided due to biochemical oxidation, compaction, and loss of the buoyant force of ground water as well as fires. In the Everglades agricultural area, peat, which formed over a period of 5000 years, is doomed to extinction. In 1912, 95% of this organic soil was over 5 feet in depth while today only about 45% is that deep. It is estimated that by the year 2000 only about 12% will be over 3 feet in depth and 45% less than 1 foot in depth.

Man had struggled for about 100 years to "reclaim" the Everglades. Yet, while only a small segment was profitably farmed, much valuable land had been allowed to burn away, and the flora and fauna of the entire Everglades including that within the newly authorized national park had been seriously affected.

In 1947, the year Everglades National Park was established, an unusually wet rainy season and two wet hurricanes combined to once again inundate the Everglades, fill Lake Okeechobee, and cause \$60,000,000 damage. This flood led to a comprehensive plan for overall water control in central and southern Florida.

The plan, prepared by the U.S. Army Corps of Engineers, was approved by the State of Florida in February 1948 and Congress authorized the Central and Southern Florida Flood Control Project as a part of the Flood Control Act in June 1948. The Corps was charged with design and construction and the Central and



Southern Florida Flood Control District, created by the State of Florida in 1949, was made responsible for the operation and maintenance of essential works of the project. Construction began in 1949 with priority given to eastern perimeter levees of the conservation areas. In the period 1954 to 1959, most of the agricultural area works were completed and additional work on the conservation areas continued.

With the completion of Levee 29 along the north park boundary and closure of the Structure 12 gates in 1962, the little remaining Everglades area still tributary to the park was blocked and henceforth flow would be artificially controlled. The River of Grass, after 5000 years, had ceased to flow.

A few gates were opened briefly in April 1964, but no significant releases to the park were made until November 1965. This prolonged stoppage of water flow intensified the controversy over the water supply for the park.

#### 8. South Florida Air Traffic

Miami International Airport is the base for 32 scheduled commercial airlines. There are four major runways totalling 34,380 feet or 6.5 miles. The daily average of takeoffs and landings is 1,200 which is 8,400 per week and 440,000 per year. This amounts to one airplane landing or taking off every 72 seconds, 24 hours a day, and 365 days a year. In 1968 the airport accommodated about 445,000 operations and ranked eleventh in the Nation in terms of the number of takeoffs and landings per year. For comparative purposes, Chicago's O'Hare ranked No. 1 with 691,000, New York's JFK No. 8 with 465,000, and Washington National, No. 26 with 346,000.

Approximately one-quarter of Miami International's present operations are training and transitioning operations involving heavy jet transport aircraft. Miami International Airport is not only a major service point for 32 scheduled air carriers, but also a significant maintenance, overhaul, or a training center for the following major air carriers:

Airlift International  
Braniff International  
Delta Airlines  
Eastern Airlines  
National Airlines  
Northeast Airlines  
Northwest Airlines  
Pan American Airlines  
United Airlines

The total number of annual training operations resulting from the activity of just these companies is presently in excess of 300,000. Because training operations take second priority at Miami International Airport to regular scheduled flights and because night training flights are not permitted after 10 p.m., about two-thirds of that total are presently being accommodated at other area airports such as at Freeport in the Bahamas.

Miami is a unique terminal point within the National Air Transportation System. Its "end-of-line" location in the Nation's domestic system dictates over-nighting of both crews and aircraft which, in turn, encourages several carriers to not only concentrate substantial maintenance operations at the location, but also pilot training and proficiency activity. This characteristic—operations conducted during the night—would accompany the transfer of training and transition activity from Miami International Airport to the proposed jetport.

#### Comment:

Try to fully describe the actions of the defendant that the plain-

tiffs are complaining about. This should be done in extensive detail, pleading wherever possible, descriptions of the proposed or past activities in the exact words of printed materials prepared by, for or about the defendant. If selection from among a number of available sources of information and public statements is required, be discriminate but fair. Try and report the full scope of the defendant's proposed activities including any claims the defendant may make with reference to good works or good accruing to the community from the proposed activity.

### 9. Defendants' Actions

#### (a) Airport Siting

A number of considerations led the Dade County Port Authority to seek a new airport site that was removed from the Miami Metropolitan area. Because the operations from Miami International Airport are over congested residential and industrial areas there are many complaints of noise. These arguments are powerful enough to force curtailment of training flights during night hours. Training flights are noisier than normal flight operations because a plane in the traffic pattern for repeated landings maintains a longer and lower altitude than a plane on a commercial flight which begins to climb to a cruising altitude.

Complaints from residents near some airports have led to noise abatement regulations requiring pilots to reduce power on take-off. Take-off is the most critical time of the entire flight since the plane has a heavy load of passengers or cargo and a full load of fuel and is in a nose-high attitude. It does not have enough altitude for maneuverability in the event of failure of one or more engines. To reduce power as a partial solution to noise abatement is to invite disaster. Airports without surrounding congested areas give a margin of safety and increase the peace of mind of passengers, and pilots, as well as those on the ground.

Another factor in remote site selection is, of course, the question of moving passengers and cargo to and from the site when development extends beyond the training operation. The Dade County Port Authority concept would utilize high speed road and rail transport to meet these needs.

#### (b) The *Big Cypress* Jetport

The Big Cypress location, some 36 miles west of Miami, was chosen and the goal of the Dade County Port Authority as described in its 1968 Annual Report is to develop the site into a large commercial facility. The Deputy Director has outlined plans for three phases of development, (1) training, (2) cargo, and (3) full commercial international operations.

#### (c) Navigation Aids

The only instrument-approach facility presently planned at the new airport is an instrument landing system (ILS). The ILS uses ground radio transmitters which emit highly directional course and glide slope signals providing extremely accurate alignment and descent information during the approach to the runway. This places the aircraft in a position to land under lower ceiling and visibility conditions than is possible when using other facilities. The aircraft intercepts the signal some distance from the approach end of the runway, at an altitude of 1,500 feet. By following the course and glide slope indicators the pilot is able to maintain a steady and accurate course and rate of descent as he approaches a landing configuration. In training it is common practice to make a lower approach, that is to follow the course and glide slope indicators to a published minimum altitude, then to declare a misapproach and follow published procedures for another approach rather than to make an actual touchdown.

Airport Surveillance Radar (ASR) which provides positioning of aircraft by azimuth and range data is used for terminal approach and departure control. Such a system is planned for the new facility, but final Federal Aviation Administration approval has not yet been received. The system is designed for a range of 50 miles. The system at Miami International Airport could be used concurrently but its use would be extremely limited. It could detect planes in the area of the new jetport at no lower than 4,000–5,000 feet above mean sea level. Using ASR the air traffic controller places the aircraft in a position to land or to intercept the ILS or other approach aids.

(d) The Training Facility—Phase 1

At its nearest point, the airport property is 6 miles from the Everglades National Park. The first (training) runway is one mile north of the south boundary of the jetport. It runs due east and west with two miles of airport property remaining at each end. This 10,500 foot long runway is nearly complete. A second runway is planned parallel to the first and one mile to the north. Unofficial plans call for it to be the same length, but it will lie more to the east, about 3,800 feet from the east boundary.

The training facility reportedly will be used for business and commercial jets, primarily 707's, 727's, 747's, DC-8's but also the smaller business jets, Lear's, Sabreliners and Gulf Streams. The visual flight traffic pattern of the south runway would extend five to six miles south of the runway, and the instrument flight pattern six to seven miles south, passing just north of the boundary of the national park. The pattern altitudes are expected to be 1,500 feet visual and 2,500 feet instrument, above sea level.

As an estimate of aircraft altitudes on leaving the airport property, it will be noted that Federal Aviation Administration regulation 120.171 requires for certification that an air carrier be capable of climbing at gross load at a minimum rate of 20 to 1. This is 264 feet of altitude for every mile of distance.

The training facility is planned to operate on a 24-hour basis beginning with the opening of the first runway in December 1969. More than 160,000 take-offs and landings are expected the first year. This averages one flight every three and one-third minutes, 24 hours a day for 365 days a year. One runway is expected to handle flights at 50-second intervals over short periods but would require an average of 80 seconds over extended periods.

A typical training flight would consist of take-off from Miami International Airport flying to a training area over water either off the east or west coast where various maneuvers would be practiced. These include approaches to stalls, engine-out and other procedures required in emergency situations. The aircraft would then move to the new training facility to shoot approximately ten approaches, that is 20 take-offs and landings or low approaches, before returning to Miami International Airport. Some training flights might terminate at the new facility with the plane being met there by another crew to start another training flight.

The routes to and from Miami International Airport apparently have not been worked out in detail. Federal Aviation Administration officials at Miami stated that these routes would probably not be worked out before September 1969.

The 1968 Dade County Port Authority's Report said that "When pilot training and transition transfer to the new airport it will take the overload off Miami International where from 35 to 42 percent of total take-offs and landings are for training flights." Both the Federal Aviation Administration and the Port Authority indicated that requests for flight training at the new site already received would provide sufficient volume and traffic to saturate one runway in the first year of operation.

The control tower will be operated by Federal Aviation Administration controllers but the agency will be reimbursed by the Dade County Port Authority.

(e) Cargo Handling—*Phase 2*

According to the Deputy Director of the Dade County Port Authority, the second stage of development of operations of the new airport will be for cargo handling. This stage would not require a high speed ground transport system to Metropolitan Miami and other communities in south Florida. In the absence of a high speed transport system providing a convenient means for airport workers to get to their jobs, residential areas could be expected to spring up nearby.

In 1968, Miami International Airport handled 169,000 tons of cargo, about 60 percent of which was international. The total cargo poundage increased about 12 percent over the previous year and that rate of increase has been steady over the past few years. In 1975 the area's cargo tonnage is forecast to be about 240,000 tons.

The cargo phase of development would require extensive ground service facilities for fuel, maintenance, overnight housing and cargo handling and a substantial number of personnel. This phase of development would greatly increase the amount of air traffic as well as the services to be supplied and the number of people to perform those services.

For this second stage the air traffic routes are not worked out in detail, but it seems clear that the flights would move in all directions. Air traffic controllers using the radar surveillance would vector the incoming and departing aircraft according to traffic requirements. This method of traffic control is apparently used with increasing frequency as compared with the method of following published approach or departure routes.

(f) Collateral Development—*The Transportation Corridor*

A ground transportation corridor, 800 to 1,000 feet wide or more, possibly dissecting the jetport property and reaching from the east to the west coast of the state has been suggested by the Dade County Port Authority to the State Road Department. Several alternative routes for the transportation corridor are under consideration. Since the new jetport is northwest of Miami some decrease in distance would result from a nearly straight line route from Miami to the jetport, proceeding across Conservation Area No. 3. Such an alignment through Conservation Area No. 3 would present considerable disadvantage to the operation of the conservation area and therefore to the Central and Southern Florida Flood Control District, as its chairman has repeatedly stated. The route currently being given most consideration is that parallel to the Tamiami Trail, adjacent to the north boundary of Everglades National Park. A representative of the Bureau of Public Roads has stated that the north jog to the airport from the Tamiami Trail would add \$6 million to \$8 million to the cost, and would add six minutes to travel time.

The ground transportation corridor, according to the 1968 Annual Report of the Port Authority, . . . "would be used for conventional vehicular and rail traffic and would be able to serve future needs of high speed transportation such as the high speed air-cushioned bus operated on a guide road between 150 to 250 miles per hour."

The high speed ground system would be novel. By use of jet engines, the system would move passengers at high speeds as required. The Department of Transportation has granted \$200,000 to the Systems Group of TRW, Inc., to study the feasibility of such a system, including route location, terminals, and equipment selection.

The corridor would also provide right-of-way for I-75 when it is extended from the west coast to Miami, and for such utilities as electric power, phone lines, fuel pipelines, water and sewage lines.



The Department of Transportation submitted the following information:

"Extension of Interstate Highway I-75: In 1968 Congress authorized the inclusion of an additional 1,500 miles in the Interstate and Defense Highway System. This addition was predicated in part on the need for an extension of I-75 in Florida south from Tampa to Naples and thence east to Miami. Route selection is currently underway for the Tampa-Naples portion of this extension. The east-west route from Naples to Miami has not yet been selected. Alternatives which will probably be considered include routes along two existing roadways: Tamiami Trail and Alligator Alley. The state of Florida has not yet proposed a specific route to the Federal Highway Administration, and no such request or approval is anticipated until sometime next year at the earliest.

"High Speed Ground Access Study: The Federal Railroad Administration has awarded a \$200,000 study contract to TRW Systems to investigate the feasibility of advanced technology high-speed ground transit systems in south Florida. One application to be considered for such systems is their potential use to provide airport access to the new jetport, if it should be expanded to commercial operations. Other potential applications for consideration relate to inter-urban travel. Various types of systems and vehicles will be evaluated.

"The ultimate use of linear electric motors to propel tracked air cushion vehicles is a probable goal of the studies. These will not be available for several years. A range of short-term vehicle types which would be compatible with the guide tract for the ultimate system will be studied. One such possibility to be considered would involve the use of aircraft turbo-fan engines; we recognize that this would involve noise problems which would require careful examination, and the TRW study will report on this. There may be alternative short-term solutions which would avoid such a noise problem, and they will also be covered in the report.

"Present plans call for co-location and concurrent construction of the ground access guideway and the I-75 highway, so that the total effect on environment of construction of the highway and the ground access guideway should be no greater than if the highway alone were constructed. The guideway should contribute no chemical pollution. The embankment, as with the highway, can have sufficient elevated sections, culverts, or bridges to insure no disruption of the flow of water."

(g) Collateral Development—*The Region*

Extensive areas for such growth lie all around the airport, except to the east where Conservation Area No. 3 will prohibit growth. Development of the area is expected to accompany and be accelerated by the expansion of the jetport facilities.

Provisions exist for limited regulation of developments beyond the present boundaries of the jetport. In the Dade-Collier agreement of June 1968, it is stated that "lands lying within a peripheral strip not exceeding three land sections in width, abutting and outside of the boundaries of the total airport complex shall be zoned or rezoned . . . with due regard to the function and purpose of the airport and in particular, noise abatement and high restriction controls. . ."

Development beyond the three-mile zone is a matter of prime significance to the Big Cypress and its dependent systems. The Deputy Director of the Dade County Port Authority stated that the type of urban areas we know today in south Florida will not be sufficient for the 21st century. "The population explosion combined with our unequalled natural and human attractions makes this inevitable. Our 1,000-foot wide transportation corridor coming in between here (Fort Myers) and Naples will serve both the east and the west coasts. But it will do a great deal more than provide access to and from the jetport and between the Gulf and the Atlantic here in south Florida. This great transportation corridor will permit the orderly, planned growth of population. Most of this grow-

ing population will live along a subsystem of transportation corridors extending north into Collier and other counties and south into Dade and Monroe Counties."

It is expected that development will commence collaterally with the training operation and accelerate rapidly with increasing use of the jetport.

Figures of a million or more population have recently been cited by individuals and by the press. This may be a realistic estimate from a long-range view but within the framework of the airport development period, and based on personnel required, it is expected that 150,000 is a more reasonable estimate. In addition to residential occupation of the area, certainly the Dade-Collier agreements emphasize the probability of extensive commercial and industrial development of unforeseeable kinds. There is talk of the area becoming the State's largest industrial site, and of construction of a 50-mile long canal from the Gulf to the airport area for commercial shipping purposes.

Land prices increased greatly in the Big Cypress. Classified advertisements on Big Cypress acreage are numerous in south Florida newspapers. In 1961, many sales were made at prices averaging \$150 per acre. In 1968, after the jetport site had been selected, three particular sales of 30, 160, and 200 acres were made at \$422, \$275, and \$750 per acre. This spread of prices appears to be related to a highly speculative period. More recent advertising makes small parcels of one and one-fourth to 10 acres available at \$450 to \$650 per acre. These lands lie north and west of the airport and are not accessible by road.

#### Comment:

On the basis of the preparation of the scientific evidence necessary to support the prima facie complaint, counsel should be prepared to plead, *in extenso*, allegations about the damaging effects that can be expected from the defendant's previously pleaded proposed actions.

Every single allegation pleaded under the count, "Effects of Defendants Actions" must be supported by an affidavit from a responsible expert witness, or an authoritative scientific or technical publication. There is no justification for pleading speculation in the hopes that it can be proven later. It must be provable on the return day of the first motion directed against the complaint. Many actions founder not because of lack of precedent but because of lack of proof. Failure to have a prima facie case fully prepared before filing a complaint is not only poor practice, it represents conduct on the part of an attorney so reprehensible as to cry out for censure. There should be no need to remind counsel that a verified complaint is a plea to a court for relief, not an appeal to the press for notoriety.

### 10. Effects of Defendants Actions

#### (a) Water Pollution

Upon information and belief the development of the Big Cypress Swamp area will require drainage. The area will be latticed with a system of secondary canals leading to large, long, primary canals which will rapidly remove water during rainfall periods. Unless some of this water is impounded for later use, it will all have to be vented directly into the coastal area of the Park.

Removal of surface waters will result in greatly reduced ground water levels in the Big Cypress Swamp during the dry season. This, together with withdrawal for water supply purposes will reduce water levels to a point where much



of the rainfall will be required just for ground water recharge—thus greatly reducing the total volume of water available to the Park.

Drainage of the Big Cypress Swamp then will result in a complete alteration of the regional systems. Overland sheet flow normally flowing into the park from the Big Cypress will cease. Drainage facilities to prevent flooding will remove excess rainfall when it occurs and unnaturally dump it into the park's estuaries. The hydroperiod of the system will be shortened from the present 8 or 9 months to 4 or 5 months thus destroying the ecosystem of both the Big Cypress Swamp and its coastal zone.

A complete discussion of water quality in the Big Cypress requires data on seasonal variations in water quantity, water temperature, plant and animal communities, land use, and other parameters for which there is presently a dearth of knowledge. Many intricate and sensitive interrelationships between the various components of the Big Cypress ecosystem are largely unknown, but they are integrated around a common need for quality water. Defendants actions pose obvious threats to good quality water. Of primary concern are the threats posed by: (1) waste treatment practices; (2) pesticides; (3) and fallout from jet exhausts.

Waste effluents containing nitrogen and phosphorus compounds are usually not treated for removal of dissolved materials. When such effluents are released into lakes and swamps the nutrients become readily available, frequently causing large and usually detrimental algal blooms, a process referred to as eutrophication.

Without special treatment to remove nitrogen and phosphorus from any domestic and industrial waste reaching the Big Cypress-Everglades area, eutrophication will ensue. The extent of this will depend on the size of the airport and adjacent developments and the waste treatment received. As a result of eutrophication the less desirable planktonic algae will increase in relation to the more desirable epiphytic algae. These will form large blooms that will tend to deoxygenate the water at night, and, over an extended period of time, will silt over the bottom substrata. Alteration of water quality and microflora will, in turn, result in changes in the animal life, and, if the increase in eutrophication is not limited, will seriously damage the ecosystem in the Everglades and Big Cypress Swamp.

#### (b) Pesticide Contamination

In considering the threat from pesticides to the Big Cypress-Everglades area, the concentration of DDT and other persistent pesticides in the environmental transport systems must be examined. Biological magnification has been demonstrated by the U.S. Geological Survey in the aquatic ecosystems of south Florida. Persistent pesticides, such as DDT, are introduced into the aquatic transport system of the region by rainfall and run-off from agricultural and urban regions. The atmospheric transport of pesticides is now worldwide but, in the immediate region of agricultural or urban use, the fallout is heavier.

Pesticides are incorporated from the water into the algal mats that form the base of the food chains for many aquatic animals. These toxicants move through the food chains and become highly concentrated in the terminal organisms of each chain. Residues in the eggs of such birds as the Bald Eagle and Everglades Kite are only slightly lower than those that have been shown experimentally to discourage reproductive success. This biological magnification of pesticides has been known to be a threat to marsh ecosystems and to the aquatic life and birds of large Lake Systems for some time, but only recently has the threat to the south Florida regional system been called to public attention.

The relatively high concentration of DDT and its metabolites in the animals of south Florida represents an accumulative threat for years to come. For some species in the wild, the tissue level of certain pesticides is near the critical point of their survival.

The use of pesticides in Florida for agriculture, in homes, on lawns, gardens and turf, and in mosquito control exceeds 40 million pounds per year. This total includes chlorinated hydrocarbons such as DDT, organo-phosphates such as parathion, and carbamates such as Sevin. In Dade County, with a population of 1.5 million people, approximately 5 million pounds of these pesticides are used annually, including 1 million pounds of DDT and other persistent pesticides. The amount used annually is increasing as urbanization and agriculture increase.

A population of 150,000 people settling into communities in the vicinity of the jetport will affect an increase in the amounts of pesticides used in south Florida. The urban-industrial-agricultural development of the Big Cypress-Everglades region will use about 500,000 pounds of these toxicants. This would create an important addition to what is now reaching the ecosystem by aerial drift and terrestrial runoff. The additional pesticide burden will likely prove disastrous to some species, especially among terminal food-chain animals.

Even at present rates of pesticide application in Florida, components of the Big Cypress-Everglades regional system will, in time, be irreparably damaged.

#### (c) Air Pollution

Not until the late 1950's was attention focused on aircraft as a source of air pollution. This coincided with the introduction of turbojet aircraft with their highly visible exhaust plumes during arrival and departure movements. Blankets of jet airplane exhaust became common at large airports. The odor of fuel permeated the surrounding area at ground level. Exhaust trails followed jets high into the air.

Emissions from aircraft consist primarily of carbon monoxide, nitrogen oxides, hydrocarbons, aldehydes, and particulates. Nearly 8,000 tons per year of such aircraft pollutants were estimated to have been emitted over the New York Metropolitan Area in 1967.

As a maximum operating training facility, the Everglades Airport is expected to accommodate about 350,000 annual aircraft emissions upon the environment, according to the Department of Transportation.

The Department of Transportation explains that: "Over 99% of the weight of the kerosene-type fuel consumed by a jet engine is exhausted in the form of invisible nonpollutant gaseous products such as carbon dioxide, watervapor, oxygen, nitrogen, and excess air; all normal atmospheric constituents. Less than one percent consists of visible particulate and invisible gaseous pollutants. About one-half of one percent is visible particulate material (smoke) which consists of pure carbon and organic compounds. The invisible gaseous pollutants include unburned hydrocarbons, carbon monoxide, aldehydes, and nitrogen oxides which are present only in trace quantities."

In the nearly pristine conditions of the Big Cypress-Everglades area, such pollution tonnage would suddenly comprise a very high percentage of the total air pollutants.

Fallout material from jet emissions would blanket many square miles of the aquatic environment surrounding the jetport and fallout in the rainfall.

Certain hydrocarbons and their derivatives, particularly the phenols, are known to be highly toxic to aquatic organisms, and under proper atmospheric conditions, the pollutant concentrations in water areas near the landing and take-off approaches at the jetport could reach lethal limits for many animal species.

Earlier this year the Federal Water Pollution Control Administration obtained water samples from open water areas adjacent to the Miami International Airport. Analyses of the samples, which were taken from areas within the take-off



and landing approach zone, showed that the chemical oxygen demand consistently exceeded 24 ppm and reached a high of 158 ppm near an aircraft taxi service area.

Air pollution will also increase in proportion to the number of automobiles using the jetport access road and the port area. Whether or not a high-speed transportation facility is built, the increase of automobile travel in the Big Cypress area associated with the jetport would cause a significant increase in pollutant emissions.

#### (d) Wildlife Danger

There are 12 birds included in the list of rare and endangered fish and wildlife of the United States which occur in the Big Cypress Swamp. Most of them also occur in the park estuaries that receive drainage from this area.

*Eastern Brown Pelican.* Several colonies, with a combined total of about 500 birds, breed in the Gulf Coast estuaries downstream from the Big Cypress. The reproductive physiology of the brown pelican appears to be highly susceptible to the effects of residues of persistent pesticides. Large populations in coastal Texas and Louisiana have disappeared during the past 10 years. In 1969, colonies on islands off southern California and Baja California experienced a complete failure of reproduction which was attributed to pesticides. Wholesale population declines elsewhere (see also Bald Eagle, Osprey) give an added significance to the southern Florida populations which are still reproducing successfully.

*Florida Great White Heron.* A few pairs nest in the estuaries near colonies of great blue herons. Seasonally (March–August), great white herons range north into the Big Cypress area from their principal breeding grounds in Florida Bay and the Florida Keys. Individual birds occur in fair numbers (high count, about 50) in the Gulf estuaries and less commonly (high count, about 15) in the interior Big Cypress.

*Wood Ibis (Stork).* This species breeds in the United States only in peninsular Florida, where its population has declined by at least 80 percent since 1940 because of drainage and gradual loss of habitat. Two-thirds of the wood ibis found in the United States breed in the Big Cypress in winter (late November to May). The National Audubon Society's Corkscrew Swamp Sanctuary protects the largest nesting colony, but wood ibis breeding at Corkscrew Swamp feed throughout the Big Cypress. At various times in recent years, smaller colonies have nested in at least 6 other Big Cypress localities. Because they feed by groping, rather than by sight, the feeding efficiency of wood ibis depends directly upon number of food items per volume of water, and their breeding and migration are closely tied to the seasonal hydrologic cycle. In south Florida, wood ibis can obtain enough food to breed successfully only in winter when dense populations of fish 1 inch to 5 inches long (concentrated by lowering of water level) are available for a period of about 4 months. Both unseasonal winter rains and early droughts have caused nesting failures. Wood ibis leave southern Florida in summer (as rising water makes feeding difficult) and disperse throughout the coastal plain of the southeastern United States.

An additional 15 to 20 percent of the United States population of wood ibis breed in the southern part of Everglades National Park. These birds regularly feed in the coastal estuaries directly downstream from the Big Cypress for 2 to 3 months in late fall and early winter while enroute to their nesting areas. Also, in years when an early drought in their usual feeding grounds threatens their breeding success (most recently in the spring of 1967), wood ibis make one-way flights as long as 45 miles from park nesting colonies to feed in the eastern Big Cypress along Levee 28 in the immediate area of the jetport.

*Roseate Spoonbill.* This species nests in Florida only in Florida Bay, but large numbers of immature and sub-adult spoonbills feed in the Big Cypress and its associated estuaries during much of the year. Sub-adults of the Florida Bay

population numbering 6-700 (roseate spoonbills require 3 years to reach maturity) concentrate in summer in the Ten Thousand Islands region of the Big Cypress estuary and move to interior estuarine areas to feed in late fall and early winter. From midwinter to spring, sub-adults, plus fledged young, disperse northward from the Florida Bay colonies and feed heavily in the eastern Big Cypress and adjacent Everglades.

*Florida Everglades Kite.* The main habitat of this species is in Loxahatchee National Wildlife Refuge (Conservation Area No. 1), and Conservation Area No. 2A, where permanent flooding favors high populations of the marsh snail, *Pomacea paludosa*, which is the Everglades Kite's only known food. Scattered individuals (mainly immature birds) range widely over the Everglades and into the eastern Big Cypress at times of high water in summer and early fall, and feed wherever snails are available.

*Southern Bald Eagle.* The history of this species since the early 1950's is one of widespread nesting failure and rapid disappearance from most of its former range. The estimated 125 breeding pairs that nest in south Florida and interior central Florida appear to be the only population of southern bald eagles that is still reproducing adequately. About 20 percent of this population inhabits the Big Cypress and the coastal estuaries whose ecology is influenced by drainage from the Big Cypress. Most bald eagle nests in the Big Cypress interior are located in the transition area between the eastern Big Cypress and the Everglades. These include three recently active nests on or near the jetport lands.

*American Osprey.* It has become evident within the past 3 or 4 years that ospreys are decreasing rapidly in the same pattern earlier shown by bald eagles. Formerly abundant populations of the Great Lakes, the New Jersey coast, and Long Island Sound are declining to extinction levels because of wholesale nesting failures related to environmental concentrations of persistent chlorinated hydrocarbons. As with the bald eagle, it appears the osprey's last stand in the eastern United States may be made in south Florida, where a still-thriving population estimated at 1,000 adults occurs south of the line Cape Romano-Big Cypress-Cape Florida. Roughly 40 percent of these inhabit the Big Cypress area, principally in its downstream estuaries.

*American Peregrine Falcon.* The peregrine falcon became extinct as a breeding species in eastern temperate North America in the early 1960's. It survives in the Arctic, whence populations migrate annually through the eastern United States to winter mainly in South America. Part of this flight, estimated at 75 birds, passes through the Gulf Coast estuaries of the Big Cypress during spring and fall. A lesser flight, of possibly 20 birds, follows the eastern edge of the Big Cypress. Occasional birds winter both on the coast and in the interior, when suitable concentrations of prey species (ducks, shorebirds) are present.

*Florida Sandhill Crane.* Sandhill cranes are permanent residents throughout the pine and prairie regions of the Big Cypress and a few pairs also breed in coastal marshes downstream from the Big Cypress.

*Cape Sable Sparrow.* This rare, relict species is known only from downstream areas of the Big Cypress drainage where small colonies occur in the tenuous belt of *Spartina* marsh found along the interface between the Big Cypress and the coastal mangrove swamps. The species appears to be extremely vulnerable to any disturbance of its habitat, either by fire or by inland extension of the mangrove belt.

*Short-tailed Hawk.* The short-tailed hawk is found in the United States only in scattered areas of peninsular Florida where the total population may not exceed 150 adults.

*Red-cockaded Woodpecker.* This species is closely limited to mature pine forest and has disappeared from much of its former range as pine forests were cut

over. Pine tracts of the southern and northeastern Big Cypress harbor what is probably the largest remaining population of the southern Florida subspecies.

In addition to those species officially listed as rare and endangered, substantial portions of the total United States population of at least four other rare or otherwise notable bird species are seasonal or year-round inhabitants of the Big Cypress area.

*White Pelican.* Most of the white pelicans that breed east of the Continental Divide winter in southwestern Florida. This population, totaling 4,000 to 5,000 birds, feeds in estuaries of the Big Cypress drainage in late fall before moving farther south.

*Anhinga.* The anhinga has a wide range in the southern United States, but one of its chief population centers is the Big Cypress where it nests commonly in many cypress sloughs and ponds. The population there is estimated at around 1,000 adults.

*Swallow-tailed Kite.* Once widespread in the United States, swallow-tailed kites are now largely confined to less disturbed parts of the Florida peninsula. The estimated 350 adults that breed in the Big Cypress and its estuaries probably represent at least one-quarter of the United States population. The species is migratory and is found in the area from late February or March to early September.

*Limpkin.* Limpkins, found in the United States only in peninsular Florida and southeastern Georgia, are particularly common in the Big Cypress. The population there probably exceeds 1,000 adults.

Most of these birds are already hard-pressed and have small, generally declining, populations in the United States. Continued reduction or degradation of their remaining habitat is certain to cause further population declines and, ultimately, extinction. If development of the jetport and lands around it causes significant environment damage through drainage, eutrophication, pesticide pollution, or other adverse change, then heavy losses to birds that now depend upon habitat in the Big Cypress and its downstream estuaries are inevitable. The endangered species that seem most precariously situated are the Cape Sable sparrow and wood ibis.

The United States stands to lose at least 50 percent of its wood ibis population if the critical feeding grounds in the Big Cypress are drained. In this species and other wading birds that nest in dense colonies, social stimulation plays a major role in nesting success. Below some lower limit of colony size, nesting often fails regardless of ecological conditions. This exact point of no return for a wood ibis population is not yet known.

Effects upon other bird species will develop more slowly as productivity declines and pollution increases in the estuaries that receive drainage from the fully developed Big Cypress. The existing load of persistent pesticide residues in Everglades National Park estuaries is near the level at which biological damage to the susceptible species (brown pelican, bald eagle, osprey) at the top of food chains becomes predictable.

Four mammals found in the area, the mangrove fox squirrel, the manatee, the Florida panther, and the Everglades mink—are considered rare and endangered species.

A total of 15 to 20 amphibians and 55 to 60 reptiles are present in the area. Little is known of the life history of a great majority of these species, but many of them, due to their great numbers (frogs, box turtles, anoles, etc.) and/or size (alligators, diamondback rattlesnakes, etc.) are important members of food chains within the Everglades ecosystem. Modification or destruction of this ecosystem would likely have considerable effect on the distribution and numbers of most of these species—in particular the rare and endangered American alligator.



Alligators in this area occur in the cypress heads which have some water year round. Low-water periods render these heads and thus the alligator more accessible to man's modern transportation. Artificially altered water level would not only increase this activity but would alter the habitat itself, thus lowering numbers further or even eliminating the species from the Big Cypress Swamp.

A number of birds, often regarded as game species, reside or spend a portion of the year in the Big Cypress Swamp area.

Waterfowl will no doubt be adversely affected during an early phase of development—the drainage stage. Drainage activities will deprive these birds of feeding and nesting habitat. Waterfowl that winter in the estuaries along the Gulf Coast will also eventually be affected when the adjacent lands approach full development. The alterations in the seasonal flow of the surface water, and in its quantity and quality, will affect the plants and organisms upon which these aquatic birds depend for their subsistence.

Sudden and large-scale alterations of this ecosystem (such as would occur with development of the jetport and satellite development) can certainly be expected to have a serious impact on all wildlife that are dependent upon the stability and productivity of the region for their welfare and survival.

The seasonal fresh water run-off from the Big Cypress passes into a broad mangrove-dominated estuarine zone along the coast, comprising about 430 square miles, including its mangrove forests, prairies, and estuaries, as compared to the 1,200 square miles of the Big Cypress tributary area. The coastal zone within the influence of Big Cypress drainage contains about one third of the total mangrove-estuarine complex of Everglades National Park. It also includes about one third of the proposed Cape Romano-Ten Thousand Islands Aquatic Preserve—the establishment of which is now under consideration by the State of Florida. The limits of the Big Cypress drainage within the coastal mangrove zone are poorly defined; the coastal zone that is subject to its influence extends approximately from Lostmans River on the south to Fahka Union Bay on the north.

Within the 430 square mile area, approximately 40% consists of mangrove, 20% of higher uplands, and 40% of ponds, streams and bays. The area includes all of the northwest portion of Everglades National Park, and somewhat beyond. It includes about half of the coast area known as the Ten Thousand Islands.

The coastal zone is characterized by levels of productivity and species diversity as high as can be found within the continental United States. In addition to its very large bird populations, the area produces or maintains hundreds of species of aquatic organisms.

Some of the better known aquatic species which occur in this area are:

Manatee (rare and endangered species); loggerhead turtle (nearing rare and endangered status); alligator (rare and endangered species); mullet; tarpon; snook; sheepshead; spotted sea trout; channel bass (red fish); mangrove snapper; popano; black drum; flounder; grunt; yellow tail; oyster; blue crabs; stone crabs; spiny lobster; pink shrimp.

Many more species known to be important forage organisms, such as anchovies, mojarra, pin fish, killifish, mosquitofish, crayfish, and grass shrimp are abundant here.

Mollusks include conchs, murex, whelks, tulips, Junonia, cones, ark, southern quahog, sunray venus, angel wing, razor clam, oysters and many others.

The average annual production of the ten top commercial fish species is in excess of one million pounds, including: bluefish, channel bass, grouper, king mackerel, mullet, pompano, sea trout, spanish mackerel, mangrove snapper and stone crab. Some of these, even though taken in the offshore waters, are dependent on the food organisms produced within the coastal zone.



The importance of the mangrove-estuarine zone of the coast, as denoted by the abundance and diversity of the species present, is related to the fact that it provides a protective harbor (especially for juvenile organisms) and rich sources of food.

In general, many of the marine species occupy some portion of the protective brackish coastal zone as juveniles, but later move seaward. Protection within the estuary is derived from the lower salinities and the grasses and mangrove roots which afford abundant shelter. Some species, such as the fresh water killifishes, and mosquitofishes, remain within the area throughout their life. Some marine species do likewise, including many forage species and the popular spotted sea trout. It is well known that fishes such as tarpon, snook, mullet, redfish and others move freely to the open Gulf as they grow.

The importance of the mangrove estuarine zone is dramatically illustrated in the life cycle of the pink shrimp which supports the commercial fisheries of the Sanibel and Tortugas grounds. Extensive research has shown that the pink shrimp spawn on the fishing grounds and that the newly spawned larvae migrate to the coastal estuarine areas. Here, because of the abundant food and the protection afforded by estuarine conditions, the larval shrimp develop through the post-juvenile stages and then migrate seaward to the above mentioned fishing grounds where they support the valuable commercial fisheries present there. An interruption of this life cycle through a loss of the coastal estuarine areas will severely deplete if not totally eliminate the shrimp fisheries.

The richness of the estuarine system is to a large degree dependent on red mangrove and on brackish water conditions.

That the energy source provided by mangroves is important not only within the mangrove zone but extends well beyond the forest and into the adjacent bays and coastal areas. The dead plant materials from these trees is transported from the mangrove forests to the bays and coastal areas principally in the months November through February, when northeast winds blow coastal waters off shore, causing gravity drainage of fresh and brackish detritus-laden waters from the marshes. The material is then available to many species which are unable to tolerate estuarine conditions.

#### (e) Noise

Any construction or development activity in the Big Cypress Swamp which leads to its drainage will alter the hydroperiod in the coastal zone. This would result in faster run-off during the wet season, and an extension of the dry period. Even if the annual volume of run-off passing through the coastal zone is unchanged, the seasonality of flow would be drastically altered.

All of the organisms in the coastal zone are adapted to a long period of brackish water conditions that extends beyond the rainy season. If these conditions do not continue, spawning periods and estuarine nursery activities will be out of phase with the artificially created hydroperiod. The rapid degradation of mangrove detritus that occurs under brackish conditions will also be reduced and the detrital food chain markedly disrupted. With these disruptions, the estuarine and offshore Gulf waters will be unable to support the high population levels of aquatic species that they now do.

The Federal Aviation Administration has estimated the level of such noise, and the scope of areas affected outside the boundaries of the jetport has been identified. Their projections are based on the airport functioning as a training facility accommodating 225,000 annual operations while a single runway facility, and 350,000 annual operations when equipped with a second runway. The Federal Aviation Administration's estimate shows that a perceived noise decibel (PNdb) level of 100 (Zone 2) will extend westward from the jetport's west boundary a distance of about 6 miles and eastward from its east boundary about 7 miles over Conservation

Area No. 3. Laterally, the same noise level will occur at a point about one-quarter mile south of the jetport's southernmost boundary, or when viewed from the tranquility interest of the Everglades National Park, at a point about 5 3/4 miles north of the northernmost boundary of the park.

As previously indicated, while the jetport operates as a single runway facility, its serving traffic pattern will lie to the north, thus the foregoing represents the Federal Aviation Administration's estimate of the degree of initial noise intrusion on the park except for occasional transitioning overflights. However, when a second runway is added, a southern traffic pattern must be utilized. This will cause aircraft to fly parallel to the park's northern boundary at a distance of about one mile and generally at an altitude of 2,500 feet. During that time, the noise level directly below the aircraft will approximate 78 to 82 PNdb's.

During takeoff present-day jet aircraft produce noise levels in the 120 PNdb range, three miles away.

Aircraft utilizing the south runway would pass close to the northern border of the Everglades National Park, and almost directly over Indian villages near the Tamiami Trail and in the Big Cypress. All aircraft from both runways would pass directly over Conservation Area No. 3A, immediately to the east of the runways. Regardless of wind direction or changing of the takeoff-landing orientation, the above pattern apparently would remain firm. Flying altitudes for these training flights will range from 1,500 to 2,500 feet.

The intrusion of aircraft noise into the Everglades National Park must also be recognized as a major impact of the defendant's actions.

Aircraft noise will most certainly intrude into the park and destroy the wilderness character of much of the area. Physiological damage to wild bird and animal populations may be a possibility and the noise will, without question, severely affect the lives of the Indians along the Trail—to their own and the Nation's detriment.

#### (f) Bird Strikes

Aircraft approaching the jetport from any direction must overfly extensive swamps and marshes where concentrations of feeding water birds occur at times. Particularly in winter, along distant approaches from the southwestern quadrant, these flocks may exceed 50,000 birds and may include numbers of white pelicans and wood ibis, species that habitually soar to high altitude. Aircraft have recorded damaging strikes of large soaring birds at altitudes above 5,000 feet.

The potential bird strike problem at the Big Cypress Jetport has two main aspects: (1) the predictable hazard that will result from the seasonal feeding movements of flocks of large water birds in the immediate area; and (2) hazards that may arise because habitat changes introduced by the jetport attract certain wildlife species.

Large numbers of wading birds regularly feed in the Big Cypress from late fall through the winter, except in years of extreme flood or extreme drought. In their usual pattern, the birds feed intensively in local areas for a few days to several weeks (commonly in massed flocks that may include 10,000 individuals of a dozen species) and then move to another area. The ecological basis for this pattern is the concentration of aquatic food organisms in local ponded areas as the surface water drops during the winter dry season. In average years, feeding wading birds tend to move seasonally from northwest to southeast across the Big Cypress and into the western part of Conservation Area No. 3A, where considerable activity usually persists until rising water from the May-June rains disperses the aquatic animals.

Around the jetport, heavy feeding by wading birds may be expected to start about mid-February in average years, and as early as December in dry years. In

very wet years, such as the winter of 1968-69, when there is a continuous sheet of surface water through much of the winter, wading bird concentrations in the area may not reach significant size. Feeding in the jetport area and along the west edge of Conservation Area No. 3A may be expected to continue as long as the deepest sloughs hold appreciable amounts of surface water—two or three months in average years and less in dry years. Locally, feeding is likely to begin wherever water flow is restricted, as at culvert mouths and along the margins of canals and borrow pits, and flocks will move from these places to adjacent marshes, ponds and sloughs as the surface water falls. During times of heavy feeding, there will be continual movements of bird flocks over short distances and at low altitudes from one feeding spot to another and from feeding grounds to local loafing areas and night roosts. Considerable daily in-out traffic of birds that are nesting elsewhere will also occur. A large part of the in-out flight is likely to be made up of wood ibis, which are birds that soar to high altitudes on thermals, and then glide off the tops of these rising air currents in the direction of their destination.

The developed area of the jetport will tend to attract wildlife for several reasons. As noted above, culvert openings, cleared areas along the runways, and the edges of borrow ponds and canals are likely to attract herons because they offer favorable feeding opportunities. The edges of some jetport borrow ponds will be sloped specifically to provide feeding places for water birds. Any interruption of surface flow by land fill is likely to attract waterfowl, and, if fish populations develop, ospreys will fish there. Thermal air currents rising from the extensive flat surfaces of the jetport runways, roofs, and roads will attract soaring birds, especially when the area around the runways is flooded. When surrounding areas are wet, natural thermal convection currents are sporadic whereas such thermals will be more frequent and intense over the runways.

Potentially the most serious problem of wildlife attraction is the invasion of the jetport runways by terrestrial animals.

Upon information and belief the training runway will be enclosed by ordinary 2-inch mesh chain link security fence 6 feet high and topped with a 1-foot slanting section of barbed wire. A supply of fence of this type is stockpiled at the jetport site. As shown in the plans, the fence will be located well away from the edges of the runway fill leaving approximately 625 acres of unaltered land surface within the fence. About 370 acres of this area will be cleared of natural vegetation (small cypress trees) and the remainder will be left undisturbed.

The fence presumably is intended to keep larger animals off the runway, but its effectiveness is open to some question. Mature deer, for example, are readily able to jump a 7-foot fence, if they have any reason to do so. Elsewhere in southern Florida, deer appear to be attracted to the fertilized grass strips on road shoulders. Grassy runway shoulders may be a comparable attractant. The plans available show that the bottom of the fence will be about two inches above the natural land surface. Because the ground in this area has an intricate micro-relief of two feet or more due to solution holes in the underlying limestone, it seems likely that such animals as marsh rabbits, otters, raccoons, turtles, and even fair-sized alligators may be able to get under the fence at many places.

The problem that may arise from large numbers of small animals has apparently not been considered. The normal movement of forms abundant in the area, such as various frogs, and the attraction of such animals as snakes and small mammals to the filled areas as flood refuges may be expected to bring numbers of these animals into the vicinity of the runway. The planned fence will not restrict movement of animals of this size, and considerable populations of some forms are likely to continue to live inside the fence. Such small animals may pose no direct hazard to aircraft, even if numbers invade the runways, but any appreciable



quantity killed on the runways will attract carrion-feeding birds (bald eagles, turkey vultures, black vultures, common crows, boat-tailed grackles).

By contrast to the above, the Big Cypress Swamp Jetport is being built on fill in an aquatic wilderness that supports a complete complement of native wildlife. The facilities are merely superimposed upon habitat that commonly attracts thousands of large water birds when feeding conditions are favorable. Feeding grounds attractive to birds will virtually surround the runway areas. All the ingredients of a potentially serious bird strike problem exist at the Big Cypress Swamp Jetport.

The Federal Aviation leaflet, "Bird hazards to aviation" (AC 150/5200-1), states that direct control of offending birds is not recommended at airports where bird strike problems develop. Rather, "The solution is to make the airport unattractive to bird life." "Serious municipal attention and aggressive airport planning and implementing action should be taken to fill, level, and clear airport and adjacent lands of all ponds, swamps, edible waste dumps, feed pens, and berry and seed bearing shrubs and bushes which create bird refuges and increase bird hazards as feeding, bathing, loafing, and nesting places. Birds are attracted to: garbage dumps; food and fish processing wastes; feed pens and piggeries; ponds, sloughs, and swamps (including man-made lakes and reflecting ponds); sewage lagoons and outfalls; seed and fruit producing plants and trees; tall grasses, reeds, and shrubbery. Such areas should be eliminated from the airport vicinity by municipal pressure and influence; by relocation; or by draining, leveling, and surfacing with materials unattractive to bird life, such as gravel."

Reasonably literal application of the above directive would require that the area surrounding the Big Cypress Jetport must be denuded, drained, and filled, and that adjoining parts of the Big Cypress and Conservation Area No. 3A must be kept free of surface water.

#### (g) Indian Tribes

In the early 1500's the Creek Nation was made up of two language groups. One was the Muskogee and the other was the Hitchiti-speaking group, which later adopted the name of "Mikasuke" (Miccosukee). The present day Miccosukee Indians at one time were located in what is now the Carolinas and Georgia. Later they settled in north Florida in the town of Miccosukee, which is between Tallahassee, Florida, and Thomasville, Georgia. Here the Miccosukee Indians intermingled and married among the Seminole and the Aboriginal Indian tribes of ancient Florida: Timucua, Tequesta, Apalachee, and Calusa. However, the Miccosukee retained their own identity and language. The Miccosukees were traditionally hunters and fishermen in contrast to the Muskogee Indians who were farmers and animal raisers. It was the Miccosukee Tribe that furnished most of the battle leaders in the Seminole Wars of the 1800's.

As the settlers continued to arrive from the north, the Miccosukee Indians moved southward from north Florida. In south Florida, they built log cabins as they had built in their former home in the north. They wore buckskin clothing and, overall, little culture changes took place. Later, influenced by contact with European settlers and materials they brought, adaptations took place. In the 1800's the garments became heavily beaded with colorful combinations of handsewn print fabrics. As they retreated further into the subtropical Everglades to avoid being sent to Indian reservations in the west, dramatic changes became evident. The warmer climate influenced the elimination of buckskin as a raw material for clothing. Styles were influenced almost exclusively by trade fabrics. Since foot or wagon travel was almost impossible through the Everglades' swamps, dugout canoes, hewed from cypress trees, were their most common mode of transportation.

Most of the present day Miccosukee Indians live in the vicinity of the northern boundary of the Everglades National Park. When the National Park was estab-



lished, these Indians were asked to settle on lands in Broward and West Palm Beach Counties. This area was designated as the Florida State Indian Reservation for the use and benefit of all the Indians of Florida. However, most of the Miccosukee Indians prefer to live along the Tamiami Trail, in that area extending from the western limits of Miami to Naples, some 100 miles to the west.

In the past, the Miccosukees made a bare subsistence by selling Indian-made dolls, jackets, drums, and other artifacts and by hunting, fishing, and light gardening. The swift and extensive economic development of south Florida, beginning at the turn of the century, had a most significant effect on the Miccosukees. Construction mushroomed and interconnecting highways found their way through the formerly impenetrable Indian lands. The subtropic Everglades began to accept the non-Indian and, with the coming of modern civilization, problems accompanied progress. The primitive resources of the Indians were markedly reduced. New laws prohibited some of the old ways of obtaining food as land areas shrank in availability. Some Indians began to work on vegetable farms in the area and others engaged in part-time occupations. During the period from November to March, the Indian men still go into the Everglades and hunt frogs which they sell in Miami where frog legs are a common item on dinner menus. They still depend to a large extent on fish and wildlife resources of the area to supplement their daily subsistence requirements.

From an isolated community that was nearly self-sufficient the Miccosukee people have been thrust into the rush of the 20th century. Need developed for more money, education, and all that is associated with the white man's present-day way of life. Much of the land on which they once roamed and hunted was developed, "posted", and eliminated as a source of their livelihood.

On January 11, 1962, the Miccosukee Constitution was approved by the Secretary of the Interior and the Tribe was officially organized and recognized. Members of the tribe, although in many cases related by blood to members of the Seminole Tribe of Florida, have no direct connection with the Seminole Tribe organization of Florida. Membership in the Miccosukee Tribe is open to Indians of at least half Miccosukee or Seminole Indian Blood, and who are not enrolled as members of any other tribe of Indians. At the present time, there are approximately 230 enrolled Miccosukee Indians and about the same number of non-enrolled Indians living in the general area along the Tamiami Trail.

Of the 88 Miccosukee families censused in 1968, 74 had an annual income of less than \$3,000. Of this number, 34 had incomes of less than \$1,000, 15 incomes from \$1,000 to \$2,000, and 25 had incomes between \$2,000 and \$3,000. This income is often supplemented by fish and wildlife resources to a considerable degree. The ability to utilize fish and wildlife as food sources is especially important to those families whose cash income is substandard. Until 1962, the Miccosukee Indian children did not attend school. After the tribe was formally organized, the Bureau of Indian Affairs and the Dade County School Board mutually supported a school program. The Miccosukee Indian children are accepted in the Dade County school system. However, tribal leaders are of the opinion that the language barrier and the age of those beginning school for the first time will require much preparatory work before the children can be expected to function properly in the alien atmosphere of a public school. For this reason, a preparatory school administered by the Bureau of Indian Affairs has been provided. Students through the fourth and fifth grade level, who range in age from 6 to 18, receive schooling in this facility prior to enrollment in public schools.

In 1962, the Bureau of Indian Affairs, with cooperation of the National Park Service, acquired the use rights of a small area of the northern boundary of Everglades National Park to be used as a home area for the Miccosukee Indians. It is in this area that the school and other facilities provided for the benefit of the Indians are located. Also in this area, through the cooperation of the Bureau of

Indian Affairs and the Tribal Housing Authority, it was possible to build homes for the Miccosukee people. "Modern Chickees" were built. These are quite large and well ventilated wood frame buildings with wooden floors, electric lights, hot water, electric ranges, and complete sanitary facilities. The roofs are thatched with palm fronds.

In December 1964, the tribe opened a modern restaurant, beautiful in architectural design and situated approximately 35 miles west of Miami along U.S. Highway 41. The interior of the restaurant displays many beautiful pieces of Indian art work. Immediately adjacent is a modern service station and grocery store. These enterprises provide employment for many of the members of the tribe. Individual members of the tribe also operate small arts and crafts shops.

With regard to land resources of the tribe, the State of Florida has dedicated in perpetuity three parcels of land (Home Area) adjacent to U.S. 41 (Tamiami Trail). This total land is appraised at \$23,500, yet the tribe has invested \$159,000 in facilities in this area. Also 104,800 acres of Indian land is held in trust by the State. The Miccosukee portion of this area is 76,800 acres, and include the mineral resources on those areas. Because of the nature of their dependency on the small areas of land available the impact of both highway construction and the jetport will be very serious.

If highway I-75 were to be constructed due east from the jetport (across Conservation Area No. 3), it would have the effect of detouring traffic away from the Indian enterprises and possibly forcing their commercial facilities to close from lack of business. Some automobile tourists would probably still travel U.S. 41 to visit the Indian villages, but whether or not the number would be sufficient to maintain their enterprises is questionable. The way the Miccosukee Indians themselves regard the development of the jetport has probably been best expressed by their chairman, Buffalo Tiger, who said, "We don't think that we have any chance of stopping the jetport from being put there, but we do think the Federal Government should do something for us Miccosukees. Everybody talks about progress—but progress is ruining the Indian. It is just another example of the white man's cheating the Indians of their birthright. We have 486 Miccosukees in this area. The Miccosukees like to fish and hunt. We have villages along the Tamiami Trail where we make our living. All this will go. The game in the Everglades will be chased away by the screaming of the jet engines. There will be no fish in the canals and streams and soon there will be no business for us on the Tamiami Trail."

Throughout their history, the Miccosukees have moved from place to place because their home lands in the vastness of the Everglades wilderness were coveted by others. Now there is no further line of retreat.

The Seminole Tribe of Florida may be only slightly better off because of the greater distance from the jetport to their reservation lands. Their future is tied to the future of the surface water—its quantity, quality, and distribution. Further developments increase the demand on this resource, which in turn jeopardizes the Seminole enterprises and way of life.

#### (h) Fire and Smoke

The Big Cypress is subject to extensive wildfires in the winter and spring of most years. Commonly, in years of severe drought (most recently 1945, 1950, 1951, 1956, 1962 and 1965), half or more of the area has burned. Enough area to represent a substantial wildfire hazard is burnable for at least 4 to 6 months in average years and longer in dry years. Statistics on wildfire occurrence are available only for the year July 1, 1968–June 30, 1969 (a period of unusually high water) during which the Florida Board of Forestry recorded a total of 43 small wildfires in eastern Collier County east of State Route 840A).

Because construction of the training runway coincided with a wet winter, jet-



port planners may not have appreciated fully that dense smoke from wildfires has sometimes persisted in the Big Cypress for weeks in dry years. Smoke has forced closing of highways across the area and, on occasion, it has interfered seriously with traffic at Miami and Fort Lauderdale airports. Existing airports have been affected only when westerly winds carried smoke from wildfires over the east coast. By contrast, the Big Cypress Swamp Jetport is surrounded by burnable, mainly roadless, wild land extending more than 50 miles in almost every direction. Its operations will be vulnerable to drift smoke from every quarter.

Natural fires set by lightning occur in the Big Cypress, but most fires in the area are man-caused, and the probability of man-caused wildfires is more or less directly proportional to the number of people at large in the area. Thus, wildfire incidence is likely to increase as population around the jetport increases. Any drainage of the area in development of the jetport and its surroundings will tend to lengthen the period during which vegetation is burnable and to decrease the number and efficiency of natural barriers to the spread of wildfire. In an unaltered setting, smoke from wildfires seem certain to be a considerable problem to jetport operations at times. The principal changes likely from further development in the area will tend to intensify the problem.

#### 11. Plaintiffs Complain:

That the actions of the defendants will directly destroy at least 400 acres of natural habitat of the Big Cypress Swamp and cause serious, permanent and irreparable damage to the Everglades-Big Cypress Regional Ecosystem.

That pollution of the air from the effluent of aircraft engines will cause serious, permanent and irreparable degradation to the environment of the Everglades National Park.

That the Miccosukee Indians will be suddenly and involuntarily subjected to round-the-clock noise levels commonly experienced by urbanites who live very near airports in many cities. There will be frequent high level noise intrusion on the wilderness character of the northern part of Everglades National Park and even more on the Big Cypress and Conservation Area No. 3.

That the defendants' activities will increase hazards to aviation from bird strikes within the airport boundaries, over Conservation Area No. 3, and in the quadrant southwest from the training strip. Such bird strikes would involve large water birds, including several rare and endangered species at altitudes ranging from ground to 2,000 feet. Small animals which seek refuge on the runways in flood periods will add to this problem when they are crushed and attract carrion-eating birds.

That the combination of bird strikes, pest insect problems and incidence of small animals on runways will probably lead to drainage of at least part of the jetport property. This is the Federal Aviation Administration recommendation in wetland areas for control of bird strikes. The Dade County Port Authority has announced no such plans, but has the capability and authority to construct canals for drainage within and without the port boundary, and use eminent domain authority on exterior lands. To be effective, any drainage effort would have to cover a large area using a grid of drainage canals. Drainage would materially increase the occurrence of fires, and such drainage will substantially and irreparably alter the characteristics of the Everglades-Big Cypress Regional Ecosystem.

That construction and imminent operation of the first training strip have elevated surrounding land prices and increased sales. Economic and social pressures for further development within and without the port property will mount rapidly, the one encouraging the other. Such development for housing, trade or industry will inexorably lead to land drainage outside the jetport property. Land development and drainage will be accompanied by increased nutrient levels in the

water, will alter the hydroperiod, and will promote eutrophication. To the extent and at the rate these changes take place, the south Florida Regional Ecological system will sustain serious, permanent and irreparable damage.

**Comment:**

Following an extensive recital of the effects to be expected for the activities proposed by the defendants, narrow the issues for the court by pleading specifically just what it is the plaintiffs are complaining about. This should be done in just sufficient detail to relate to the previously pleaded recital of the general effects to be expected from the defendants' actions.

**12. Equitable Jurisdiction**

This action is properly brought in Equity before this Court on the following grounds:

(a) The subject matter is equitable in nature.

This action is brought for the purpose of restraining the Defendants from damaging the unique national natural resource treasure—the Everglades National Park and its supporting regional ecological system, and doing irreparable injury which cannot be adequately compensated in damages to the class represented by Plaintiff. The declaratory judgment and injunction demanded by the Plaintiff are equitable remedies and the substantive character of the rights sought to be enforced by the Plaintiff are historically in the province of a court of equity.

(b) There is no adequate remedy at law.

The law does not afford any adequate remedy for the contemplated wrong resulting from Defendants' action. There is no plain, adequate and complete remedy at law as practicable and efficient as the equitable relief sought herein, nor are the damages sustained by the class represented by Plaintiff as a result of the Defendant's actions capable of adequate determination in any action at law.

WHEREFORE, the plaintiff on behalf of all those entitled to the full benefit, use and enjoyment of the national, natural resource treasure that is the Everglades National Park without degradation or diminution in value resulting from the development of the *Big Cypress Swamp Jetport*, and all others similarly situated, not only of this generation but of those generations yet unborn, demand judgment of the defendants.

(a) Declaring

the rights of the people of the United States in and to the full benefit, use and enjoyment of the national, natural resource treasure, the Everglades National Park, without degradation or diminution in value from the operation and development of the *Big Cypress Swamp Jetport*.

(b) Declaring

that the Defendants' actions violate the rights of the plaintiff and all the people of the United States not only of this generation but of those generations yet unborn, guaranteed under the Ninth Amendment of the Constitution of the United States and protected by the *due process* clause of the Fifth Amendment of the Constitution of the United States and by the *due process* and *equal protection* clauses of the Fourteenth Amendment of the Constitution of the United States.

(c) Restraining

the defendants jointly or severally, individually or in concert with others, from any operation or development of the *Big Cypress Swamp Jetport* that will cause



serious, permanent or irreparable damage to the national, natural resource treasure, the Everglades National Park,

(d) Restraining

the defendants jointly or severally, individually or in concert with others, from continued use of the existing facilities of the *Big Cypress Swamp Jetport* for aircraft operations, training or otherwise, except in the case of extreme emergency.

(e) Together

with any and all such further relief as to this court shall seem just and proper under the circumstances.

Dated: March 10, 1970

Victor John Yannacone, jr.  
YANNAZONE & YANNAZONE  
*Attorneys for the Plaintiffs,*  
Patchogue, New York 11772

applied in negligence cases involving water pollution.<sup>18</sup> In *Landers v East Texas*, plaintiff sued for damages allegedly caused by two independent acts by the defendants. The actions, alleged to be negligent, were breaks in pipelines transporting salt water that resulted in the pollution by salt water of a lake owned by plaintiff and in the death of fish stocked in the lake by plaintiff. The court held that the single indivisible injury rule was applicable to the case.

The single indivisible injury rule is applicable in situations where the pollution of air or water cannot be proportioned among the individual polluters. The individual polluters could thus all be joined as defendants in litigation to abate the pollution of the air or water in the entire area in question. The court could frame a decree against each individual defendant in such a way that the effect of the individual decrees would be to satisfactorily abate and control the pollution of the air or water in the entire area in question. The decrees against the individual defendants would not have to be predicated on an apportionment of the damage caused by the pollutants released by each individual defendant, since as joint tortfeasors each defendant is jointly liable for the entire pollution and can be regulated by injunction as the court believes best for abatement of the entire pollution problem. The burden would be on an individual defendant that believes that the decree is inequitable as to him to prove the specific injury attributable to him that should be regulated. It would not be a sufficient defense, under the single indivisible injury rule, for an individual defendant to claim that the pollutants released by him alone would not have caused the overall pollution problem that is sought to be abated and controlled. Neither would a defendant state a valid defense by claiming that each defendant releases pollutants into the air or water at different times and places.<sup>19</sup>

### § 182. Drafting the complaint

Environmental law cases present legal theories which are as diverse as lawyers' imaginations are fertile. The variety of pleading tactics and strategic alternatives that may be encountered in such suits are as infinite as the diversities and perversities of those who despoil our environs. Much must be left to the ingenuity of resourceful advocates in the light of the special circumstances with which they are faced. The most that can be offered is an assortment of ideas illustrating specific situations and the potential tactical solutions employed in drafting complaints.

18. *Phillips Petroleum Co. v Hardee*, 189 F2d 205 (1951, CA5 La); *Landers v East Texas Salt Water Disposal Co.* 151 Tex 251, 248 SW2d 731 (1952).

19. *Brown v Murdy*, 78 SD 367, 102 NW2d 664 (1960).

Forms for the drafting of many different complaints appear in this text.<sup>20</sup> A close examination of their construction should be of considerable value to counsel preparing a complaint in the still new field of environmental law. A point-by-point analysis of a specific complaint, this one against the proposed Big Cypress Swamp Jetport manufacturers of DDT, should also be of assistance.

DISTRICT COURT OF THE UNITED STATES  
*for the*  
DISTRICT OF SOUTHERN FLORIDA

individually and on behalf of all those entitled to the full benefit, use and enjoyment of the national natural resource treasure that is the Everglades National Park without degradation or diminution in value resulting from operation or development of the *Big Cypress Swamp Jetport*, and all others similarly situated, not only of this generation, but of those generations yet unborn,

*Plaintiff*

v.

JOHN A. VOLPE, Secretary of Transportation of the United States of America, and

DADE COUNTY, FLORIDA Board of County Commissioners, Acting as Dade County Port Authority County Court House, Miami, Florida,

*Defendants*

Amended Complaint

Case No. 70-128

YANNACONE & YANNACONE

*Attorneys for Petitioners*

Office and Post Office Address

39 Baker Street

Post Office Drawer 109

Patchogue, New York 11772

Area Code 516 GRover 5-0231

TABLE OF CONTENTS

1. Venue
2. Jurisdiction—Title 28 United States Code § 1331(a)
3. Jurisdiction—Title 28 United States Code § 1343
4. Jurisdiction—Title 5 United States Code § 702(a)
5. Class Action
6. Declaratory Judgment
7. The Everglades Regional Systems

20. See §§ 17 (trust doctrine); 24 (Ninth Amendment); 35 (public nuisance); 58, 59 (airport noise); 84 (water pollution); 99 (air pollution); 122, 123, 124 (pesticides and herbicides); 139 (nuclear detonation); 161 (mismanagement of public lands); 164 (Outer Continental Shelf Lands Act); 165 (waste of public property); 182 (DDT); 205 (Army Corps of Engineers); 211 (billboard construction); 214 (highway construction).



- (a) Land Relief
  - (b) Physiographic Provinces, Vegetation
  - (c) Geology, Soils
  - (d) Hydrology
  - (e) The *Big Cypress* System
  - (f) Everglades System Dynamics
  - (g) Everglades Drainage History
  - 8. South Florida Air Traffic
  - 9. Defendants' Actions
    - (a) Airport Siting
    - (b) The *Big Cypress* Jetport
    - (c) Navigation Aids
    - (d) The Training Facility—*Phase 1*
    - (e) Cargo Handling—*Phase 2*
    - (f) Collateral Development—*The Transportation Corridor*
    - (g) Collateral Development—*The Region*
  - 10. Effects of Defendants Actions
    - (a) Water Pollution
    - (b) Pesticide Contamination
    - (c) Air Pollution
    - (d) Wildlife Danger
    - (e) Noise
    - (f) Bird Strikes
    - (g) Indian Tribes
    - (h) Fire and Smoke
  - 11. Plaintiffs Complain:
  - 12. Equitable Jurisdiction
- Prayer for Relief

**Comment:**

Any complaint exceeding twenty pages in length should have an index, which should serve two purposes: first to briefly outline the cause of action set forth in the complaint and second to serve as a ready reference to the Court.

**Amended Complaint****Case No. 70-128**

The plaintiff individually and on behalf of all those entitled to the full benefit, use and enjoyment of the national natural resource treasure that is the Everglades National Park, complaining of the Defendants by his attorneys, YANNACONE & YANNACONE

sets forth and alleges, in this amended complaint incorporating all allegations of the original complaint:

**1. Venue**

The venue of this action is determined under Title 28, United States Code, §§ 1391(b), 1391(e).

**Comment:**

It is manifest that a carefully formulated choice of place of trial, within the range of alternatives available under prevailing law, may be an exceedingly significant tactical decision. The rather surprising volume of appellate litigation involving venue issues attests to the strength of this proposition.

The alternatives that are available, however, often cannot be rationally appraised except in relation to the remedial theory of the action and potential procedural variations susceptible of being elected in the complaint. To adopt a theory of recovery, to select a remedy, determine the parties to be joined, or prepare the complaint before adequate attention has been devoted to the problem of venue and choice of place of trial is to choose blindly—for then the correct venue will, in many if not all cases, be determined by the pleading decisions already made. The choice of pleading theory should in many instances be influenced by preliminary venue determinations and designed to achieve a selected venue objective.

## 2. Jurisdiction

Jurisdiction of this Court is invoked under Title 28, United States Code, § 1331(a). "The district courts shall have original jurisdiction of all civil actions wherein the matter in controversy exceeds the sum or value of \$10,000, exclusive of interest and costs, and arises under the Constitution, laws or treaties of the United States."

### Comment:

The first paragraphs in any complaint filed in the federal district court on diversity of citizenship grounds should concern itself with a statement of this jurisdictional basis. This should be done carefully. The complaint must allege the citizenship of each of the parties, the principal place of business of corporations, and the fact that the case involves a sum in excess of \$10,000, exclusive of interest and costs. It is not sufficient to state that a litigant is a resident.

If the plaintiff fails to set forth the jurisdictional grounds, the question is often raised whether he will be given leave to amend. In almost all cases, leave is given to amend a complaint to show the jurisdictional basis.

This action arises under Article VI, section 2, of the Constitution of the United States, "This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every state shall be bound thereby; any Thing in the Constitution or Laws of any State to the Contrary notwithstanding." and involves the declaration and interpretation of the rights of the plaintiff and all the People of the United States secured by the Ninth Amendment of the Constitution of the United States, "The enumeration in the Constitution of certain rights, shall not be construed to deny or disparage others retained by the people." and under the *due process* clause of the Fifth Amendment to the Constitution of the United States, ". . . nor shall any person . . . be deprived of life, liberty or property, without due process of the law; . . ." and under the *due process* and *equal protection* clauses of the Fourteenth Amendment of the Constitution of the United States, ". . . No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws." and the matter in controversy, exclusive of interest and costs, exceeds the value of Ten Thousand (\$10,000.) Dollars.

**Comment:**

A suit arising under the Constitution, laws or treaties of the United States is governed by certain fundamental principles. As diversity of citizenship is not required in these cases, actions may be maintained between citizens of the same state. However, an action to enforce a right created by a law of the United States will only arise when the controversy depends upon the construction given such a law. In other words, a federal question must be directly involved in the controversy.

In pleading a federal question, the complaint must show that plaintiff's cause of action is based upon the Constitution, laws or treaties of the United States. He cannot invoke federal jurisdiction by alleging that some anticipated defense involves the Constitution and the laws of the United States.

**3. Jurisdiction**

Jurisdiction of this Court is also invoked under Title 28, United States Code, §1343:

The district courts shall have original jurisdiction of any civil action authorized by law to be commenced by any person: . . .

(3) To redress the deprivation, under color of any State law, statute, ordinance, regulation, custom or usage, of any right, privilege or immunity secured by the Constitution of the United States or by any Act of Congress providing for equal rights of citizens or of all persons within the jurisdiction of the United States;

(4) To recover damages or to secure equitable or other relief under any Act of Congress providing for the protection of civil rights. . . ."

This action is authorized by Title 42, United States Code, § 1983: "Every person who, under color of any statute, ordinance, regulation, custom, or usage, of any State or Territory, subjects or causes to be subjected, any citizen of the United States or other person within the jurisdiction thereof to the deprivation of any rights, privileges or immunities secured by the Constitution and laws, shall be liable to the party injured in an action at law, suit in equity, or other proper proceeding for redress."

**Comment:**

Continued assertion by environmental advocates of the Civil Rights Act as a source of federal jurisdiction in environmental litigation strengthens the position that environmental rights are an extension of already recognized civil rights and a step toward judicial protection of fundamental human rights.

**4. Jurisdiction**

Jurisdiction of this court is invoked under Title 5, United States Code, § 702(a): "Any person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof." and the statutes relevant to this proceeding are Title 16, United States Code, §§ 1, 410, 410c, 410n:

"There is created in the Department of the Interior a service to be called the National Park Service, which shall be under the charge of a director. The Secretary of the Interior shall appoint the director, and there shall also be in said service such subordinate officers, clerks, and employees as may be appropriated for



by Congress. The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified, as provided by law, by such means and measures as conform to the fundamental purpose of the said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein by such means as will leave them unimpaired for the enjoyment of future generations."

"When title to all the lands within boundaries to be determined by the Secretary of the Interior within the area of approximately two thousand square miles in the region of the Everglades of Dade, Monroe, and Collier Counties, in the State of Florida, recommended by said Secretary, in his report to Congress of December 3, 1930, pursuant to the Act of March 1, 1929 (45 Stat. 1443), shall have been vested in the United States, said lands shall be, and are, established, dedicated, and set apart as a public park for the benefit and enjoyment of the people and shall be known as the Everglades National Park: *Provided*, That the United States shall not purchase by appropriation of public moneys any land within the aforesaid area, but such lands shall be secured by the United States only by public or private donation."

"The said area, or areas shall be permanently reserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area."

"Unless the Secretary, after notice and opportunity for hearing, shall find that the same is seriously detrimental to the preservation and propagation of the flora or fauna of Everglades National Park, he shall permit such drainage through the natural waterways of the park and the construction, operation, and maintenance of artificial works for conducting water thereto as is required for the reclamation by the State of Florida or any political subdivision thereof or any drainage district organized under its laws of lands lying easterly of the eastern boundary of the park in township 54 south, ranges 31 and 32 east, township 55 south, ranges 32 and 33 east, and township 56 south, range 33 east. He shall grant said permission, however, only after a master plan for the drainage of said lands has been approved by the State of Florida and after finding that the approved plan has engineering feasibility and is so designed as to minimize disruptions of the natural state of the park. Any right-of-way granted pursuant to this section shall be revocable upon breach of the conditions upon which it is granted, which conditions shall also be enforceable in any other appropriate manner, and the grantee shall be obligated to remove its improvements and to restore the land occupied by it to its previous condition in the event of such revocation."

and Title 49, United States Code §§ 1651, 1653(f):

"The Congress hereby declares that the general welfare, the economic growth of the Nation and its security require the development of national transportation policies and programs conducive to the provision of fast, safe, efficient, and convenient transportation at the lowest cost consistent therewith and with other national objectives including the efficient utilization and conservation of the Nation's resources. . . .

"It is hereby declared to be the national policy that special effort would be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

"It is hereby declared to be the national policy that special effort should be made to preserve the natural beauty of the countryside and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States in developing transpor-

tation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed. After August 23, 1968, the Secretary shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance as determined by the Federal, State or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife area, wildlife and waterfowl refuge, or historic site resulting from such use."

**Comment:**

In pleading jurisdiction the environmental advocate should always plead relevant statutes in full. Never assume that the court will have the full text of the statute at hand when considering a case of first impression from the bench on a preliminary hearing. Also keep in mind that as an attorney, you may only comment on the case to the press in terms of the filed pleadings. Make sure that everything you may wish to have the public consider and understand is pleaded in full.

When pleading the Administrative Procedure Act as an element of jurisdiction see to it that the statutes concerning the subject matter of the complaint are pleaded as furnishing the substantive basis for procedural jurisdiction under the A.P.A.

**5. Class Action**

This action is brought by the plaintiff on behalf of all those entitled to the full benefit, use and enjoyment of the national natural resource treasure that is the Everglades National Park.

The members of this class are so numerous as to make it impracticable to bring them all before this Court. There are substantial questions of law and fact common to the class and common relief on behalf of all members of the class is sought.

The claims of the representative are typical of the claims of the members of the class, and the Defendants' actions have substantial effect upon all members of the class, and thereby make appropriate final injunctive and corresponding declaratory relief with respect to the class as a whole, as a proper class action under Rule 23 (b) (2), Federal Rules of Civil Procedure.

The prosecution of separate actions by individual members of the class would create the risk of inconsistent or varying adjudications with respect to individual members of the class which would establish incompatible standards of conduct for the defendants, so that this action is a proper class action under Rule 23(b) (1) (A).

Adjudication with respect to individual members of the class would, as a practical matter, be dispositive of the interests of the other members of the class not party to this litigation so that this action is a proper class action under Rule 23(b) (1) (B).

The members of the class are fairly and adequately represented by this plaintiff and the plaintiff has no interest adverse to that of any individual who might be entitled to the relief sought herein.

**6. Declaratory Judgment**

This is a proceeding for a Judgment declaring the rights and legal relations



of the parties to the matter in controversy, under Title 28, United States Code, §§ 2201, 2202, specifically,

(a) Declaring

the rights of the people of the United States in and to the full benefit, use and enjoyment of the Everglades National Park without degradation and diminution in value from the acts of the Defendants.

(b) Declaring

that the Defendants' actions violate the rights of the plaintiff and all the people of the United States not only of this generation but of those generations yet unborn, similarly guaranteed under the Ninth Amendment of the Constitution of the United States and protected by the *due process* clause of the Fifth Amendment of the Constitution of the United States and by the *due process* and *equal protection* clauses of the Fourteenth Amendment of the Constitution of the United States.

**Comment:**

The flexibility of declaratory relief suggests numerous situations in which it may prove to be the most useful tactical approach to jurisdictional planning of the action. But care must be employed to see to it that the complaint clearly proceeds as one primarily for a declaration of rights. Merely to append a prayer for declaratory relief as an afterthought in a complaint for damages may be ineffective for jurisdictional limitations are ordinarily determined by the substance of the complaint taken as a whole, and not by merely "incidental" demands.

In any action involving an environmental toxicant, particular environmental degradation or damage to a natural resource, describe the regional ecological systems at length and in sufficient detail to form the basis for any hypothetical question you might have to ask an ecologist as an expert witness. As in this example, try to obtain the facts for such a description from an authoritative government publication. If the allegations are denied in the answer the author of the publication or the responsible representative of the government agency can be subpoenaed to testify on a preliminary hearing or the trial of the action.

The environmental advocate should never hesitate to plead what might be generally considered evidence in describing a regional ecological system or the specifics of environmental degradation. If the defendant wishes, a motion can always be made to strike the evidentiary material, and if the pleading offends the sensibilities of the court, the offensive material can always be stricken by the court on its own motion. Trial strategy in environmental litigation mandates that the entire substance of the plaintiff's case be set forth fully and at large in the initial pleadings, preferably in the complaint rather than in supporting affidavits. Only in this way can an appellate court be presented with a proper record should a lower court summarily dismiss the action without a hearing on the merits.

## 7. The Everglades Regional Systems

### (a) Land Relief

The Okeechobee-Everglades and Big Cypress drainage basins occupy about 70% of the coastal lowland of south Florida. The highest elevations in this lowland are about 20 feet above mean sea level. These occur along the north shore of Lake Okeechobee and on the sandy coastal ridge of the west coast. Between the west coast ridge and a lower ridge bordering the east coast the Okeechobee-



Everglades and Big Cypress basins slope gently south and southwest from Lake Okeechobee for a distance of about 100 miles to Florida Bay and the Gulf of Mexico.

Lake Okeechobee averages 14 to 15 feet in depth with its bottom lying at mean sea level. The original southern (muck) rim of the lake ranged from about 14.5 to 21 feet above mean sea level. From Okeechobee to Florida Bay the seaward slope of the land averages about one foot to every six miles, or two inches per mile.

The extreme flatness of this land has three effects which are important to the ecology of the area. First, fresh water run-off from north to south is exceedingly slow, being of the order of one half mile per day. This is critically important to Everglades National Park, because the period of wetness (the hydroperiod) in the park is thereby extended 3 or 4 months beyond the actual rainfall period.

Second, the flatness of the basin results in the distribution of shallow sheets of water over very large areas. Drainage which lowers surface water even a few inches can dry thousands of acres. Conversely, raising water levels a few inches by means such as pumping, can inundate thousands of acres.

Third, the nearly horizontal plane of the basin intersects the plane of sea level at an almost imperceptible angle. The consequence of this is that minor variations in sea level will affect the line of salt water penetration over a broad zone of the shore. Penetration inland with a rising sea level will be even greater when the head of fresh water is low. Forces affecting penetration of sea water also include sea level changes due to lunar effect, and winds including hurricanes, as well as the presence of absence of fresh water run-off.

#### (b) Physiographic Provinces, Vegetation

In the 4,000 square mile Everglades Province, sawgrass comprises 65% to 70% of the vegetation. Wet prairie and slough communities occupy the deepest channels. Interspersed through the Everglades are tree islands containing a mix of species such as wax myrtle, bay, hackberry, wild tamarind, cabbage palm and occasional oaks. These occur where there is enough height above the perennial water table to allow some soil aeration, usually only 1 to 2 feet above the level of sawgrass.

The vegetation of the 1,200 square mile Big Cypress Swamp differs considerably from that of the sawgrass Everglades, even though both areas are parts of a single ecological entity. In the Big Cypress, large trees, open elongated forests of medium-sized trees, and large areas of stunted cypress grow in marsh-like, seasonally flooded prairie. Cypress does not cover all of the region for there are some areas of higher pineland and wet prairie.

The 1,300 square mile coastal mangrove zone consists largely of red mangroves, with black and white mangroves and buttonwood making up the bulk of the remaining vegetation.

The coastal ridges once supported typical upland vegetation, principally pine forests with scattered hardwood hammocks, but little of the original vegetation remains.

#### (c) Geology, Soils

The Florida Everglades basin is underlain chiefly by limestone. There are two contemporaneous formations. The highly porous Miami Oolite, with large eroded surface areas of pinnacle rock, underlies the east half whereas the harder, less porous, Tamiami formation underlies the west half, including the Big Cypress.

A thin blanket of gray calcareous marl covers vast areas of these formations. In the upper glades, beds of peat and muck have built up over the marl. In the

lower glades, the marl is often the only covering over the limestone, or is interbedded with layers of peat, or underlies thin layers of peat.

The peat and muck soils overlying the limestone average about 7 feet deep over large parts of the agricultural area in the northern Everglades, thinning to 2 to 3 feet near the north levee of Conservation Area No. 3 and feathering to nearly nothing a few miles south of the Tamiami Trail. Peat and muck materials occur irregularly in pockets in the limestone south of the "feather edge." In the coastal mangrove zone, peat of sawgrass and mangrove origin lies in deeper beds that are often interbedded with marls.

Peat and muck formations of the Everglades play a major role in prolonging the duration of the hydroperiod by storing water and helping to maintain high water tables in the region.

#### (d) Hydrology

Summer thunderstorms, of marine origin, produce the highly erratic seasonal rainfall and runoff characteristic of south Florida. Winter and spring normally constitute the dry season. In the summer and fall, hurricanes and tropical storms often produce exceptional rainfalls, sometimes as much as 20 inches within a 48-hour period. The rainfall averages 57.0 inches per year in the Big Cypress and lower Everglades. The monthly rainfall, on the average, ranges from a low of 1.0 inch in December to 9.7 inches in September. About 85 percent of the rainfall occurs from May to October.

High temperatures and humidities are characteristic of the area. Temperatures are moderately high from May through September and moderate the rest of the year with occasional light frosts during the winter months. Monthly averages range from 68 degrees Fahrenheit in December to 85 degrees in August. Year-round the relative humidity varies from about 50 percent during daylight hours to nearly 100 percent at night.

A highly significant climatological-ecological factor in the Everglades and Big Cypress basins is the large evapo-transpiration loss which consumes about 75 percent to 95 percent of the annual rainfall. In some years, evapo-transpiration exceeds rainfall.

As an indication of the existing general quality of the fresh water in the Everglades National Park, the range and median values of nitrate, sulfate, calcium, dissolved solids, and iron from three regions within the park were compared with values from various waters of the United States that support a mixed fish fauna. These five dissolved chemical constituents become pollutants when their concentrations become excessive. The median value of concentrations of the five constituents at Tamiami Canal and Taylor and Shark River sloughs are lower in every instance than they were in 95 percent of the comparative United States waters.

Background levels of total nitrogen and total phosphorus in the northern part of the Everglades National Park average, respectively, 1.0-5.0 ppm nitrogen and 0.01-0.50 ppm phosphorus. Findings of the Florida Game and Fresh Water Fish Commission in the upper St. Johns River marsh area in 1965, confirm equally low levels of both nitrogen and phosphorus in comparable habitats.

#### (e) The *Big Cypress* System

The Big Cypress is a wilderness area of sloughs, cypress strands, pine islands, and hammocks, roughly 30 by 40 miles in extent and located west of the Everglades, principally within Collier County. It is an intricate mosaic of marsh and lowland forest types. The pattern of this mosaic is determined mainly by the length of the hydroperiod and the frequency of fire at a given site.

The major forest types are bald cypress, slash pine, cabbage palm, and mixed



hardwoods. The important herbaceous types include the sawgrass marshes, usually with a scattering of small cypress trees, and mixed grass-sedge marshes that are located on higher ground and contain no sawgrass. These latter mentioned areas are generally known as prairies.

The predominance of cypress gives the area its name, although much of the cypress has little timber value. It is generally small in size and found in low densities on areas that are marginal for mature cypress growth due to thin soil and frequent fire. Locations characterized by deeper soil and a longer hydroperiod support forests of large cypress trees. These occur as linear belts along drainage sloughs (cypress strands), and as islands that are known locally as cypress heads. The latter commonly indicate the locations of depressions in the underlying limestone.

Cypress of commercial size was lumbered in the 1940's and early 1950's. Some cutover areas show good regeneration. Others, where severe fires followed lumbering, now have dense growth of willow and red maple brush. Stands of custard apple and pop ash forest with abundant epiphytes often occur around permanent ponds within the cypress heads and strands. At places, belts of swamp hardwood species including bay, magnolia, red maple and cocoplum, form an outer zone bordering the cypress strands.

One strand is particularly important. It carries the name Fahkahatchee. It is the major drainage slough of the southwestern Big Cypress and supports a mixed stand of cypress and native royal palm, a forest type which is unique on earth.

Pine forests of the Big Cypress occupy sites that are slightly higher and consequently have a shorter hydroperiod and higher fire frequency. The more accessible stands of pine were also cut over in the early 1950's. Cabbage palms are commonly mixed with pines in open stands or as island groves in the prairies.

A mature upland hardwood forest is developed in only a few scattered hammocks whose slight topographic elevation minimizes flooding. These areas are often surrounded by sloughs which reduce the likelihood of fire. In this forest type, West Indian trees such as gumbo limbo, wild tamarind, mastic and Jamaica dogwood share dominance with oak, hackberry, red mulberry and other more common trees of the southeastern United States. Vegetation found in the immediate area of the jetport consists primarily of small cypress growing in sawgrass marsh, with numerous cypress heads and occasional hardwood hammocks also present.

Most of the Big Cypress has been little disturbed by people and within it are nearly all of the wildlife species native to semi-tropical Florida. The entire area is low and flat and experiences extreme seasonal variation of surface water levels. During the summer most of the ground surface of the Big Cypress is inundated by a shallow sheet of water. In the usual winter-spring dry season, however, surface water is restricted—as it is in the Everglades—to a few ponds and sloughs. Wildfires at this time are often frequent and widespread.

Because access to much of the Big Cypress is difficult, botanical exploration of the area is still incomplete. The area is known to include a number of species found nowhere else in the United States. Florida Royal Palms are still relatively common in the Fahkahatchee Strand, despite the removal of many trees for landscaping in southern Florida cities. Elsewhere this palm occurs naturally only as small stands at three locations in Everglades National Park where its presence is believed due to the activities of aboriginal Indians. Wright's palm, a tropical species with a limited range in Florida, is found along the fringes of the Fahkahatchee Strand. A botanical feature of major interest in the Big Cypress is the abundance and diversity of epiphytic plants that is unmatched outside the tropics. These "air plants" include some 25 species of orchid, 3 species of peperomia, 12 species of bromeliads (wild pineapples) and about 15 species of epiphytic ferns.



About 10 orchids and several plants of other groups are species unknown in the United States outside the Big Cypress. Although the native epiphytes are under protection by Florida law, large scale collecting by private enthusiasts and commercial dealers has seriously depleted many areas.

The Big Cypress may well be thought of as an aquatic rather than a terrestrial environment. Water levels are above the ground surface about 70 percent of the time in low-lying areas and over most of the areas 3-4 months in the normal year. The surface drainage features convey water to the estuaries that lie to the west and southwest of the Big Cypress. As in other parts of this vast, flat land, drainage patterns are not easily definable. In the vicinity of the jetport overland flow to the south begins at a very low drainage divide about 7 miles north of the Tamiami Trail. At present, an east-west levee, about 3.5 miles long, roughly parallels this low ridge. The land contours, in the vicinity of the jetport, show the irregularities of the surface. In this area the gradient of the water surface approximates the slope of the ground surface and drops on the average about 5 inches per mile as one proceeds south. The overland flow is intercepted by the Tamiami Canal and then flows eastward or westward in the canal to the nearest culvert under the Tamiami Trail (U.S. Highway 41) most of which are spaced at about one-mile intervals. After flowing through a culvert, the water spreads out and continues its sheet flow in a southerly or southwesterly direction into the estuaries of Everglades National Park.

The most important fact about the Big Cypress Swamp is that it is an integral part of the biological functioning of the south Florida ecosystem. Many animal species are sufficiently mobile to utilize the whole region of Everglades, cypress swamp and mangrove coastal glades at some time during their life cycle.

#### (f) Everglades System Dynamics

In the fresh water zone, hammocks or small islands of trees, stand one or two feet above the surrounding land and are usually bordered by much larger areas of sawgrass and wet prairie. Within 5 to 10 miles of the coast the vegetative zonation is quite different, being affected materially by seasonal penetration of salt water from the Florida Bay and the Gulf of Mexico. There the sawgrass tends to be replaced by salt tolerant woody plants such as mangroves.

Hammocks are elevated only one to two feet above the adjacent sawgrass. Because of the small differences in elevation of the terrain, seasonal changes in water levels result in widespread inundation, alternating with widespread drying in which only the holes and ponds retain water.

The limestone base in the Everglades is very porous. As water levels rise or fall, they do so freely.

South Florida has a relatively long dry season in winter and spring, despite the intense rains of summer. Not enough rain falls on the average during the summer to maintain surface waters in the dry season, owing to heavy evapo-transpiration losses. Any particular region may experience a water deficit during the normal 6 months dry season and must depend on other regions for water to offset its scarcity.

Under original conditions the overflow from Lake Okeechobee moved southward in the Everglades as a thin sheet of water over vast areas. This overflow was prolonged by the large amount of water from the Kissimmee River which drained into the lake. The overflow from the lake provided water needed to overcome the evapo-transpiration deficit in the southern Everglades and to maintain its hydroperiod which originally was 9 months or longer in duration in average years.

During the normal rainy season, June through October, production of fishes, crustaceans, etc., in the aquatic communities is at maximum. Water levels nor-



mally remain high through November and then begin to decline gradually in the marshes, prairies, and glades areas. In the period March through May the water levels reach their lowest point. At this time aquatic animals become concentrated in the deeper depressions. Some of these are holes that alligators dig and maintain as their dry season refuges. Others are topographic depressions, such as solution holes in the limestone, or depressions formed where wildfires have burned out deep pockets of peat. Such holes are critical to the Everglades ecosystem, because they are the refuges in which necessary broodstocks of small fishes, crustaceans, and other aquatic animals survive the dry season. The drastic reduction of the alligator population by poaching has greatly decreased the number of drought survival holes available to smaller organisms.

When the water table gets too low, peat dries and is subject to deep burning by wildfires; alligators become easily accessible and poaching increases; the area and volume of water to sustain the small aquatic organisms that form the base of the food chain is restricted and the population of such creatures decreases radically; water needed to sustain fishes, alligators, and other species is available only in the deeper depressions; the oxygen content of the water in these holes is depleted due to organic decomposition and fish kills result.

On the other hand, excessively high water also has adverse effects: alligator nests are flooded and the eggs fail to hatch; terrestrial animals such as deer and wild hogs are forced to compete for space and food on the few areas remaining above water.

A balance, at optimum range, of water levels is clearly required in the glades. In the summer wet period, extensive areas must be inundated to permit the expansion of the aquatic populations—phytoplankton, crustaceans, and fishes. Subsequently, water levels must recede to concentrate the summer production of food organisms sufficiently. This supply of food is essential for the nourishment of the larger fishes, amphibians, reptiles, mammals, and many marine fishes, including snook, tarpon, and mangrove snapper seasonally invade the brackish and even fresh waters of the lower Everglades to utilize this supply of food.

This seasonal wet-dry cycle must coincide with the natural reproductive cycles of the predatory fishes, amphibians, reptiles, birds, and mammals that feed upon small aquatic animals. Otherwise, the reproduction of these larger animals at the top of food chains will fail. Excessively high or low water can cause reproductive failure.

Severe drought in the spring of 1965 eliminated most survival holes for small aquatic life and recovery of these populations was slow when the area flooded again in the summer and fall of 1965. Consequently, fish populations did not reach sufficient density to support successful wood ibis nesting in the following winter-spring dry period and the colonies in Everglades National Park produced only a few young. With much less severe drought in the spring of 1966, aquatic populations started from a higher base, built up to much greater densities, and wood ibis nested successfully in the winter of 1966-67.

The Everglades vegetation also is highly dependent upon the seasonal fluctuations of water levels. Alterations in the regime of wet-dry conditions have already produced changes in major vegetation types.

Before the advent of man, fire probably played an important part in maintaining the ecosystem. Lightning fires were probably frequent during the dry system but usually did not burn down into the peat. The usual fires probably burned only the above ground parts of the sawgrass. The roots were protected by the moist peat in which they rested. Only in exceptionally dry years did the peat dry sufficiently to burn at depth. In instances when the peat is ignited, fires burn until the peat is consumed or rising water of the succeeding rainy season puts out the fire. This wildfire factor is also believed to have been important in main-



taining many other ecosystems such as the almost treeless prairies of the west and the jackpine forests of the north.

The interplay of fresh water run-off and tides, both lunar and wind, is very critical in the mangrove-estuarine zone. An obvious example of this is the salt-tolerant vegetation along the coast. Not so obvious, but well demonstrated is the dependency of hundreds of marine species on this brackish area. Typically, the marine species occupy the area as juveniles, taking advantage of the protection it affords them by lowered salinities, grass communities and mangrove roots. The area also supplies a vital source of food as discussed later in the section on the coastal-mangrove zone. Its production of marine species constitutes a resource of tremendous value throughout the Florida Keys.

#### (g) Everglades Drainage History

For more than 5000 years water that accumulated seasonally on the Kissimmee prairies flowed via the Kissimmee River into Lake Okeechobee. At times the lake spilled over its southern rim and this flow together with local rainfall commenced the almost imperceptibly slow journey south through the Everglades, eventually to pass through the coastal zone to Florida Bay and the Gulf of Mexico. The Kissimmee River-Lake Okeechobee-Everglades drainage area tributary to the present Everglades National Park originally encompassed about 9000 square miles.

The literature of the mid-1800's refers to a century-old tradition that draining of the Everglades was contemplated and indeed undertaken by either the Spanish government or an association of Spanish subjects in Cuba. During the war with the Seminoles (1836-1842), a canal was found on the northeast shore of Lake Flirt (now drained and farmed) leading to the prairie of Lake Hicpochee and in the direction of Lake Okeechobee, a work believed to have been too large to have been undertaken by the early Indians of Florida.

Shortly after attaining statehood in 1845, Florida requested Congress to undertake a survey of the Everglades with a view to reclamation. Buckingham Smith, a prominent citizen of St. Augustine, at the direction of the Secretary of the Treasury undertook a reconnaissance of the Everglades and submitted a report (1848) indicating optimism on the matter of drainage of the vast area. Smith further stated that such an undertaking if successful would be of great benefit to the country. Under the provisions of the Federal Swamp and Overflow Lands Act of 1850, Florida received some 10,000,000 acres of swamp and overflowed lands, among which was included the Everglades. In 1851 the Florida Legislature passed an act accepting the grant and providing for a board of internal improvement. In 1855, the Florida Legislature passed a new act creating the Trustees of the Internal Improvement Fund, the main trust being the drainage and reclamation of swamp and overflowed lands.

During the next 25 years little progress was made toward accomplishing what both Federal and State governments considered to be of great importance in the development of Florida. The first comprehensive drainage plan was implemented by a contract entered into between the Trustees of the Internal Improvement Fund and Hamilton Disston, on February 26, 1881. This contract envisioned the permanent lowering of Lake Okeechobee and lakes in the headwaters of the Kissimmee River. It was believed this would also result in lowering water levels in the Everglades along the southern rim of the lake. It should be noted that the lowering of Lake Okeechobee was the point of this whole drainage scheme. Disston's efforts for the next several years centered in the upper Kissimmee River basin although his dredgmen first attempted to lower the lake by cutting canals from the Caloosahatchee River to Lake Flirt; and from Lake Flirt to Lake Hicpochee and thence into Lake Okeechobee. These canals which varied from 24 to 46 feet in width and from 4 to 10 feet in depth were probably completed by 1885. Some attempts were made to divert water from the lake to the area of the Big



Cypress west of the Everglades. Disston's channel to the Caloosahatchee River represents the first reduction in natural flow to the present Everglades National Park.

By 1905, it was apparent that efforts to drain and reclaim the lands, under the jurisdiction of the Trustees since 1855, were in essence ineffectual, if not a total failure. The Florida Legislature created the Everglades Drainage District in 1905 and for the next two decades, amid controversy as to methods, canals were dug and levees built.

It was during this period that three small coastal rivers—Hillsborough, North New River and Miami—were extended into the Everglades and connected with Lake Okeechobee. Two overland canals—the West Palm Beach and St. Lucie—were dug from the lake to tidewater. These channels across the ancient floodway of the Everglades and the canals intercepted or reduced the normal southward flow and moved it away from the present park area and to the ocean. The third major disruption in the park's water supply resulted from the construction of levees around the southern perimeter of Lake Okeechobee between 1921 and 1926.

A need for these levees arose when drainage of the Everglades along the southern rim of the lake resulted in general subsidence of peat to 4.5 feet below the original natural elevation.

In 1926 and again in 1928, severe hurricanes passed over Lake Okeechobee and the poorly constructed levees failed to withstand the wind tides that these storms generated. Immense volumes of water swept into the Everglades farming area causing great loss of life and extensive property damage.

As a result of these disastrous storms the first Federal water control program for the area was initiated. The Corps of Engineers began the construction of improved outlet works and protective levees at Lake Okeechobee. These works were completed about 1937.

While the Lake Okeechobee levees prevented reoccurrence of the 1926 and 1928 disasters, they also forever blocked the natural flow of water from the far reaches of the Kissimmee River through the Everglades to the park. The water which once flowed south toward Florida Bay was now diverted to the Gulf of Mexico and the Atlantic Ocean via canals and canalized rivers. Land which was historically inundated by water spilling out of the Lake Okeechobee basin was now deprived of excess water and began to dry. As it dried the danger of fire increased. By the early 1940's great areas of the Everglades were afire and in many areas the peat soil cover had been destroyed leaving bare rock exposed. In other areas peat subsided due to biochemical oxidation, compaction, and loss of the buoyant force of ground water as well as fires. In the Everglades agricultural area, peat, which formed over a period of 5000 years, is doomed to extinction. In 1912, 95% of this organic soil was over 5 feet in depth while today only about 45% is that deep. It is estimated that by the year 2000 only about 12% will be over 3 feet in depth and 45% less than 1 foot in depth.

Man had struggled for about 100 years to "reclaim" the Everglades. Yet, while only a small segment was profitably farmed, much valuable land had been allowed to burn away, and the flora and fauna of the entire Everglades including that within the newly authorized national park had been seriously affected.

In 1947, the year Everglades National Park was established, an unusually wet rainy season and two wet hurricanes combined to once again inundate the Everglades, fill Lake Okeechobee, and cause \$60,000,000 damage. This flood led to a comprehensive plan for overall water control in central and southern Florida.

The plan, prepared by the U.S. Army Corps of Engineers, was approved by the State of Florida in February 1948 and Congress authorized the Central and Southern Florida Flood Control Project as a part of the Flood Control Act in June 1948. The Corps was charged with design and construction and the Central and

Southern Florida Flood Control District, created by the State of Florida in 1949, was made responsible for the operation and maintenance of essential works of the project. Construction began in 1949 with priority given to eastern perimeter levees of the conservation areas. In the period 1954 to 1959, most of the agricultural area works were completed and additional work on the conservation areas continued.

With the completion of Levee 29 along the north park boundary and closure of the Structure 12 gates in 1962, the little remaining Everglades area still tributary to the park was blocked and henceforth flow would be artificially controlled. The River of Grass, after 5000 years, had ceased to flow.

A few gates were opened briefly in April 1964, but no significant releases to the park were made until November 1965. This prolonged stoppage of water flow intensified the controversy over the water supply for the park.

#### 8. South Florida Air Traffic

Miami International Airport is the base for 32 scheduled commercial airlines. There are four major runways totalling 34,380 feet or 6.5 miles. The daily average of takeoffs and landings is 1,200 which is 8,400 per week and 440,000 per year. This amounts to one airplane landing or taking off every 72 seconds, 24 hours a day, and 365 days a year. In 1968 the airport accommodated about 445,000 operations and ranked eleventh in the Nation in terms of the number of takeoffs and landings per year. For comparative purposes, Chicago's O'Hare ranked No. 1 with 691,000, New York's JFK No. 8 with 465,000, and Washington National, No. 26 with 346,000.

Approximately one-quarter of Miami International's present operations are training and transitioning operations involving heavy jet transport aircraft. Miami International Airport is not only a major service point for 32 scheduled air carriers, but also a significant maintenance, overhaul, or a training center for the following major air carriers:

Airlift International  
Braniff International  
Delta Airlines  
Eastern Airlines  
National Airlines  
Northeast Airlines  
Northwest Airlines  
Pan American Airlines  
United Airlines

The total number of annual training operations resulting from the activity of just these companies is presently in excess of 300,000. Because training operations take second priority at Miami International Airport to regular scheduled flights and because night training flights are not permitted after 10 p.m., about two-thirds of that total are presently being accommodated at other area airports such as at Freeport in the Bahamas.

Miami is a unique terminal point within the National Air Transportation System. Its "end-of-line" location in the Nation's domestic system dictates over-nighting of both crews and aircraft which, in turn, encourages several carriers to not only concentrate substantial maintenance operations at the location, but also pilot training and proficiency activity. This characteristic—operations conducted during the night—would accompany the transfer of training and transition activity from Miami International Airport to the proposed jetport.

#### Comment:

Try to fully describe the actions of the defendant that the plain-



tiffs are complaining about. This should be done in extensive detail, pleading wherever possible, descriptions of the proposed or past activities in the exact words of printed materials prepared by, for or about the defendant. If selection from among a number of available sources of information and public statements is required, be discriminate but fair. Try and report the full scope of the defendant's proposed activities including any claims the defendant may make with reference to good works or good accruing to the community from the proposed activity.

## 9. Defendants' Actions

### (a) Airport Siting

A number of considerations led the Dade County Port Authority to seek a new airport site that was removed from the Miami Metropolitan area. Because the operations from Miami International Airport are over congested residential and industrial areas there are many complaints of noise. These arguments are powerful enough to force curtailment of training flights during night hours. Training flights are noisier than normal flight operations because a plane in the traffic pattern for repeated landings maintains a longer and lower altitude than a plane on a commercial flight which begins to climb to a cruising altitude.

Complaints from residents near some airports have led to noise abatement regulations requiring pilots to reduce power on take-off. Take-off is the most critical time of the entire flight since the plane has a heavy load of passengers or cargo and a full load of fuel and is in a nose-high attitude. It does not have enough altitude for maneuverability in the event of failure of one or more engines. To reduce power as a partial solution to noise abatement is to invite disaster. Airports without surrounding congested areas give a margin of safety and increase the peace of mind of passengers, and pilots, as well as those on the ground.

Another factor in remote site selection is, of course, the question of moving passengers and cargo to and from the site when development extends beyond the training operation. The Dade County Port Authority concept would utilize high speed road and rail transport to meet these needs.

### (b) The *Big Cypress* Jetport

The Big Cypress location, some 36 miles west of Miami, was chosen and the goal of the Dade County Port Authority as described in its 1968 Annual Report is to develop the site into a large commercial facility. The Deputy Director has outlined plans for three phases of development, (1) training, (2) cargo, and (3) full commercial international operations.

### (c) Navigation Aids

The only instrument-approach facility presently planned at the new airport is an instrument landing system (ILS). The ILS uses ground radio transmitters which emit highly directional course and glide slope signals providing extremely accurate alignment and descent information during the approach to the runway. This places the aircraft in a position to land under lower ceiling and visibility conditions than is possible when using other facilities. The aircraft intercepts the signal some distance from the approach end of the runway, at an altitude of 1,500 feet. By following the course and glide slope indicators the pilot is able to maintain a steady and accurate course and rate of descent as he approaches a landing configuration. In training it is common practice to make a lower approach, that is to follow the course and glide slope indicators to a published minimum altitude, then to declare a misapproach and follow published procedures for another approach rather than to make an actual touchdown.



Airport Surveillance Radar (ASR) which provides positioning of aircraft by azimuth and range data is used for terminal approach and departure control. Such a system is planned for the new facility, but final Federal Aviation Administration approval has not yet been received. The system is designed for a range of 50 miles. The system at Miami International Airport could be used concurrently but its use would be extremely limited. It could detect planes in the area of the new jetport at no lower than 4,000–5,000 feet above mean sea level. Using ASR the air traffic controller places the aircraft in a position to land or to intercept the ILS or other approach aids.

(d) The Training Facility—*Phase 1*

At its nearest point, the airport property is 6 miles from the Everglades National Park. The first (training) runway is one mile north of the south boundary of the jetport. It runs due east and west with two miles of airport property remaining at each end. This 10,500 foot long runway is nearly complete. A second runway is planned parallel to the first and one mile to the north. Unofficial plans call for it to be the same length, but it will lie more to the east, about 3,800 feet from the east boundary.

The training facility reportedly will be used for business and commercial jets, primarily 707's, 727's, 747's, DC-8's but also the smaller business jets, Lear's, Sabreliners and Gulf Streams. The visual flight traffic pattern of the south runway would extend five to six miles south of the runway, and the instrument flight pattern six to seven miles south, passing just north of the boundary of the national park. The pattern altitudes are expected to be 1,500 feet visual and 2,500 feet instrument, above sea level.

As an estimate of aircraft altitudes on leaving the airport property, it will be noted that Federal Aviation Administration regulation 120.171 requires for certification that an air carrier be capable of climbing at gross load at a minimum rate of 20 to 1. This is 264 feet of altitude for every mile of distance.

The training facility is planned to operate on a 24-hour basis beginning with the opening of the first runway in December 1969. More than 160,000 take-offs and landings are expected the first year. This averages one flight every three and one-third minutes, 24 hours a day for 365 days a year. One runway is expected to handle flights at 50-second intervals over short periods but would require an average of 80 seconds over extended periods.

A typical training flight would consist of take-off from Miami International Airport flying to a training area over water either off the east or west coast where various maneuvers would be practiced. These include approaches to stalls, engine-out and other procedures required in emergency situations. The aircraft would then move to the new training facility to shoot approximately ten approaches, that is 20 take-offs and landings or low approaches, before returning to Miami International Airport. Some training flights might terminate at the new facility with the plane being met there by another crew to start another training flight.

The routes to and from Miami International Airport apparently have not been worked out in detail. Federal Aviation Administration officials at Miami stated that these routes would probably not be worked out before September 1969.

The 1968 Dade County Port Authority's Report said that "When pilot training and transition transfer to the new airport it will take the overload off Miami International where from 35 to 42 percent of total take-offs and landings are for training flights." Both the Federal Aviation Administration and the Port Authority indicated that requests for flight training at the new site already received would provide sufficient volume and traffic to saturate one runway in the first year of operation.

The control tower will be operated by Federal Aviation Administration controllers but the agency will be reimbursed by the Dade County Port Authority.

(e) Cargo Handling—*Phase 2*

According to the Deputy Director of the Dade County Port Authority, the second stage of development of operations of the new airport will be for cargo handling. This stage would not require a high speed ground transport system to Metropolitan Miami and other communities in south Florida. In the absence of a high speed transport system providing a convenient means for airport workers to get to their jobs, residential areas could be expected to spring up nearby.

In 1968, Miami International Airport handled 169,000 tons of cargo, about 60 percent of which was international. The total cargo poundage increased about 12 percent over the previous year and that rate of increase has been steady over the past few years. In 1975 the area's cargo tonnage is forecast to be about 240,000 tons.

The cargo phase of development would require extensive ground service facilities for fuel, maintenance, overnight housing and cargo handling and a substantial number of personnel. This phase of development would greatly increase the amount of air traffic as well as the services to be supplied and the number of people to perform those services.

For this second stage the air traffic routes are not worked out in detail, but it seems clear that the flights would move in all directions. Air traffic controllers using the radar surveillance would vector the incoming and departing aircraft according to traffic requirements. This method of traffic control is apparently used with increasing frequency as compared with the method of following published approach or departure routes.

(f) Collateral Development—*The Transportation Corridor*

A ground transportation corridor, 800 to 1,000 feet wide or more, possibly dissecting the jetport property and reaching from the east to the west coast of the state has been suggested by the Dade County Port Authority to the State Road Department. Several alternative routes for the transportation corridor are under consideration. Since the new jetport is northwest of Miami some decrease in distance would result from a nearly straight line route from Miami to the jetport, proceeding across Conservation Area No. 3. Such an alignment through Conservation Area No. 3 would present considerable disadvantage to the operation of the conservation area and therefore to the Central and Southern Florida Flood Control District, as its chairman has repeatedly stated. The route currently being given most consideration is that parallel to the Tamiami Trail, adjacent to the north boundary of Everglades National Park. A representative of the Bureau of Public Roads has stated that the north jog to the airport from the Tamiami Trail would add \$6 million to \$8 million to the cost, and would add six minutes to travel time.

The ground transportation corridor, according to the 1968 Annual Report of the Port Authority, . . . "would be used for conventional vehicular and rail traffic and would be able to serve future needs of high speed transportation such as the high speed air-cushioned bus operated on a guide road between 150 to 250 miles per hour."

The high speed ground system would be novel. By use of jet engines, the system would move passengers at high speeds as required. The Department of Transportation has granted \$200,000 to the Systems Group of TRW, Inc., to study the feasibility of such a system, including route location, terminals, and equipment selection.

The corridor would also provide right-of-way for I-75 when it is extended from the west coast to Miami, and for such utilities as electric power, phone lines, fuel pipelines, water and sewage lines.



The Department of Transportation submitted the following information:

"Extension of Interstate Highway I-75: In 1968 Congress authorized the inclusion of an additional 1,500 miles in the Interstate and Defense Highway System. This addition was predicated in part on the need for an extension of I-75 in Florida south from Tampa to Naples and thence east to Miami. Route selection is currently underway for the Tampa-Naples portion of this extension. The east-west route from Naples to Miami has not yet been selected. Alternatives which will probably be considered include routes along two existing roadways: Tamiami Trail and Alligator Alley. The state of Florida has not yet proposed a specific route to the Federal Highway Administration, and no such request or approval is anticipated until sometime next year at the earliest.

"High Speed Ground Access Study: The Federal Railroad Administration has awarded a \$200,000 study contract to TRW Systems to investigate the feasibility of advanced technology high-speed ground transit systems in south Florida. One application to be considered for such systems is their potential use to provide airport access to the new jetport, if it should be expanded to commercial operations. Other potential applications for consideration relate to inter-urban travel. Various types of systems and vehicles will be evaluated.

"The ultimate use of linear electric motors to propel tracked air cushion vehicles is a probable goal of the studies. These will not be available for several years. A range of short-term vehicle types which would be compatible with the guide tract for the ultimate system will be studied. One such possibility to be considered would involve the use of aircraft turbo-fan engines; we recognize that this would involve noise problems which would require careful examination, and the TRW study will report on this. There may be alternative short-term solutions which would avoid such a noise problem, and they will also be covered in the report.

"Present plans call for co-location and concurrent construction of the ground access guideway and the I-75 highway, so that the total effect on environment of construction of the highway and the ground access guideway should be no greater than if the highway alone were constructed. The guideway should contribute no chemical pollution. The embankment, as with the highway, can have sufficient elevated sections, culverts, or bridges to insure no disruption of the flow of water."

(g) Collateral Development—*The Region*

Extensive areas for such growth lie all around the airport, except to the east where Conservation Area No. 3 will prohibit growth. Development of the area is expected to accompany and be accelerated by the expansion of the jetport facilities.

Provisions exist for limited regulation of developments beyond the present boundaries of the jetport. In the Dade-Collier agreement of June 1968, it is stated that "lands lying within a peripheral strip not exceeding three land sections in width, abutting and outside of the boundaries of the total airport complex shall be zoned or rezoned . . . with due regard to the function and purpose of the airport and in particular, noise abatement and high restriction controls. . ."

Development beyond the three-mile zone is a matter of prime significance to the Big Cypress and its dependent systems. The Deputy Director of the Dade County Port Authority stated that the type of urban areas we know today in south Florida will not be sufficient for the 21st century. "The population explosion combined with our unequalled natural and human attractions makes this inevitable. Our 1,000-foot wide transportation corridor coming in between here (Fort Myers) and Naples will serve both the east and the west coasts. But it will do a great deal more than provide access to and from the jetport and between the Gulf and the Atlantic here in south Florida. This great transportation corridor will permit the orderly, planned growth of population. Most of this grow-



ing population will live along a subsystem of transportation corridors extending north into Collier and other counties and south into Dade and Monroe Counties."

It is expected that development will commence collaterally with the training operation and accelerate rapidly with increasing use of the jetport.

Figures of a million or more population have recently been cited by individuals and by the press. This may be a realistic estimate from a long-range view but within the framework of the airport development period, and based on personnel required, it is expected that 150,000 is a more reasonable estimate. In addition to residential occupation of the area, certainly the Dade-Collier agreements emphasize the probability of extensive commercial and industrial development of unforeseeable kinds. There is talk of the area becoming the State's largest industrial site, and of construction of a 50-mile long canal from the Gulf to the airport area for commercial shipping purposes.

Land prices increased greatly in the Big Cypress. Classified advertisements on Big Cypress acreage are numerous in south Florida newspapers. In 1961, many sales were made at prices averaging \$150 per acre. In 1968, after the jetport site had been selected, three particular sales of 30, 160, and 200 acres were made at \$422, \$275, and \$750 per acre. This spread of prices appears to be related to a highly speculative period. More recent advertising makes small parcels of one and one-fourth to 10 acres available at \$450 to \$650 per acre. These lands lie north and west of the airport and are not accessible by road.

#### Comment:

On the basis of the preparation of the scientific evidence necessary to support the *prima facie* complaint, counsel should be prepared to plead, *in extenso*, allegations about the damaging effects that can be expected from the defendant's previously pleaded proposed actions.

Every single allegation pleaded under the count, "Effects of Defendants Actions" must be supported by an affidavit from a responsible expert witness, or an authoritative scientific or technical publication. There is no justification for pleading speculation in the hopes that it can be proven later. It must be provable on the return day of the first motion directed against the complaint. Many actions founder not because of lack of precedent but because of lack of proof. Failure to have a *prima facie* case fully prepared before filing a complaint is not only poor practice, it represents conduct on the part of an attorney so reprehensible as to cry out for censure. There should be no need to remind counsel that a verified complaint is a plea to a court for relief, not an appeal to the press for notoriety.

### 10. Effects of Defendants Actions

#### (a) Water Pollution

Upon information and belief the development of the Big Cypress Swamp area will require drainage. The area will be latticed with a system of secondary canals leading to large, long, primary canals which will rapidly remove water during rainfall periods. Unless some of this water is impounded for later use, it will all have to be vented directly into the coastal area of the Park.

Removal of surface waters will result in greatly reduced ground water levels in the Big Cypress Swamp during the dry season. This, together with withdrawal for water supply purposes will reduce water levels to a point where much

of the rainfall will be required just for ground water recharge—thus greatly reducing the total volume of water available to the Park.

Drainage of the Big Cypress Swamp then will result in a complete alteration of the regional systems. Overland sheet flow normally flowing into the park from the Big Cypress will cease. Drainage facilities to prevent flooding will remove excess rainfall when it occurs and unnaturally dump it into the park's estuaries. The hydroperiod of the system will be shortened from the present 8 or 9 months to 4 or 5 months thus destroying the ecosystem of both the Big Cypress Swamp and its coastal zone.

A complete discussion of water quality in the Big Cypress requires data on seasonal variations in water quantity, water temperature, plant and animal communities, land use, and other parameters for which there is presently a dearth of knowledge. Many intricate and sensitive interrelationships between the various components of the Big Cypress ecosystem are largely unknown, but they are integrated around a common need for quality water. Defendants actions pose obvious threats to good quality water. Of primary concern are the threats posed by: (1) waste treatment practices; (2) pesticides; (3) and fallout from jet exhausts.

Waste effluents containing nitrogen and phosphorus compounds are usually not treated for removal of dissolved materials. When such effluents are released into lakes and swamps the nutrients become readily available, frequently causing large and usually detrimental algal blooms, a process referred to as eutrophication.

Without special treatment to remove nitrogen and phosphorus from any domestic and industrial waste reaching the Big Cypress-Everglades area, eutrophication will ensue. The extent of this will depend on the size of the airport and adjacent developments and the waste treatment received. As a result of eutrophication the less desirable planktonic algae will increase in relation to the more desirable epiphytic algae. These will form large blooms that will tend to deoxygenate the water at night, and, over an extended period of time, will silt over the bottom substrata. Alteration of water quality and microflora will, in turn, result in changes in the animal life, and, if the increase in eutrophication is not limited, will seriously damage the ecosystem in the Everglades and Big Cypress Swamp.

#### (b) Pesticide Contamination

In considering the threat from pesticides to the Big Cypress-Everglades area, the concentration of DDT and other persistent pesticides in the environmental transport systems must be examined. Biological magnification has been demonstrated by the U.S. Geological Survey in the aquatic ecosystems of south Florida. Persistent pesticides, such as DDT, are introduced into the aquatic transport system of the region by rainfall and run-off from agricultural and urban regions. The atmospheric transport of pesticides is now worldwide but, in the immediate region of agricultural or urban use, the fallout is heavier.

Pesticides are incorporated from the water into the algal mats that form the base of the food chains for many aquatic animals. These toxicants move through the food chains and become highly concentrated in the terminal organisms of each chain. Residues in the eggs of such birds as the Bald Eagle and Everglades Kite are only slightly lower than those that have been shown experimentally to discourage reproductive success. This biological magnification of pesticides has been known to be a threat to marsh ecosystems and to the aquatic life and birds of large Lake Systems for some time, but only recently has the threat to the south Florida regional system been called to public attention.

The relatively high concentration of DDT and its metabolites in the animals of south Florida represents an accumulative threat for years to come. For some species in the wild, the tissue level of certain pesticides is near the critical point of their survival.



The use of pesticides in Florida for agriculture, in homes, on lawns, gardens and turf, and in mosquito control exceeds 40 million pounds per year. This total includes chlorinated hydrocarbons such as DDT, organo-phosphates such as parathion, and carbamates such as Sevin. In Dade County, with a population of 1.5 million people, approximately 5 million pounds of these pesticides are used annually, including 1 million pounds of DDT and other persistent pesticides. The amount used annually is increasing as urbanization and agriculture increase.

A population of 150,000 people settling into communities in the vicinity of the jetport will affect an increase in the amounts of pesticides used in south Florida. The urban-industrial-agricultural development of the Big Cypress-Everglades region will use about 500,000 pounds of these toxicants. This would create an important addition to what is now reaching the ecosystem by aerial drift and terrestrial runoff. The additional pesticide burden will likely prove disastrous to some species, especially among terminal food-chain animals.

Even at present rates of pesticide application in Florida, components of the Big Cypress-Everglades regional system will, in time, be irreparably damaged.

#### (c) Air Pollution

Not until the late 1950's was attention focused on aircraft as a source of air pollution. This coincided with the introduction of turbojet aircraft with their highly visible exhaust plumes during arrival and departure movements. Blankets of jet airplane exhaust became common at large airports. The odor of fuel permeated the surrounding area at ground level. Exhaust trails followed jets high into the air.

Emissions from aircraft consist primarily of carbon monoxide, nitrogen oxides, hydrocarbons, aldehydes, and particulates. Nearly 8,000 tons per year of such aircraft pollutants were estimated to have been emitted over the New York Metropolitan Area in 1967.

As a maximum operating training facility, the Everglades Airport is expected to accommodate about 350,000 annual aircraft emissions upon the environment, according to the Department of Transportation.

The Department of Transportation explains that: "Over 99% of the weight of the kerosene-type fuel consumed by a jet engine is exhausted in the form of invisible nonpollutant gaseous products such as carbon dioxide, watervapor, oxygen, nitrogen, and excess air; all normal atmospheric constituents. Less than one percent consists of visible particulate and invisible gaseous pollutants. About one-half of one percent is visible particulate material (smoke) which consists of pure carbon and organic compounds. The invisible gaseous pollutants include unburned hydrocarbons, carbon monoxide, aldehydes, and nitrogen oxides which are present only in trace quantities."

In the nearly pristine conditions of the Big Cypress-Everglades area, such pollution tonnage would suddenly comprise a very high percentage of the total air pollutants.

Fallout material from jet emissions would blanket many square miles of the aquatic environment surrounding the jetport and fallout in the rainfall.

Certain hydrocarbons and their derivatives, particularly the phenols, are known to be highly toxic to aquatic organisms, and under proper atmospheric conditions, the pollutant concentrations in water areas near the landing and take-off approaches at the jetport could reach lethal limits for many animal species.

Earlier this year the Federal Water Pollution Control Administration obtained water samples from open water areas adjacent to the Miami International Airport. Analyses of the samples, which were taken from areas within the take-off



and landing approach zone, showed that the chemical oxygen demand consistently exceeded 24 ppm and reached a high of 158 ppm near an aircraft taxi service area.

Air pollution will also increase in proportion to the number of automobiles using the jetport access road and the port area. Whether or not a high-speed transportation facility is built, the increase of automobile travel in the Big Cypress area associated with the jetport would cause a significant increase in pollutant emissions.

#### (d) Wildlife Danger

There are 12 birds included in the list of rare and endangered fish and wildlife of the United States which occur in the Big Cypress Swamp. Most of them also occur in the park estuaries that receive drainage from this area.

*Eastern Brown Pelican.* Several colonies, with a combined total of about 500 birds, breed in the Gulf Coast estuaries downstream from the Big Cypress. The reproductive physiology of the brown pelican appears to be highly susceptible to the effects of residues of persistent pesticides. Large populations in coastal Texas and Louisiana have disappeared during the past 10 years. In 1969, colonies on islands off southern California and Baja California experienced a complete failure of reproduction which was attributed to pesticides. Wholesale population declines elsewhere (see also Bald Eagle, Osprey) give an added significance to the southern Florida populations which are still reproducing successfully.

*Florida Great White Heron.* A few pairs nest in the estuaries near colonies of great blue herons. Seasonally (March–August), great white herons range north into the Big Cypress area from their principal breeding grounds in Florida Bay and the Florida Keys. Individual birds occur in fair numbers (high count, about 50) in the Gulf estuaries and less commonly (high count, about 15) in the interior Big Cypress.

*Wood Ibis (Stork).* This species breeds in the United States only in peninsular Florida, where its population has declined by at least 80 percent since 1940 because of drainage and gradual loss of habitat. Two-thirds of the wood ibis found in the United States breed in the Big Cypress in winter (late November to May). The National Audubon Society's Corkscrew Swamp Sanctuary protects the largest nesting colony, but wood ibis breeding at Corkscrew Swamp feed throughout the Big Cypress. At various times in recent years, smaller colonies have nested in at least 6 other Big Cypress localities. Because they feed by groping, rather than by sight, the feeding efficiency of wood ibis depends directly upon number of food items per volume of water, and their breeding and migration are closely tied to the seasonal hydrologic cycle. In south Florida, wood ibis can obtain enough food to breed successfully only in winter when dense populations of fish 1 inch to 5 inches long (concentrated by lowering of water level) are available for a period of about 4 months. Both unseasonal winter rains and early droughts have caused nesting failures. Wood ibis leave southern Florida in summer (as rising water makes feeding difficult) and disperse throughout the coastal plain of the southeastern United States.

An additional 15 to 20 percent of the United States population of wood ibis breed in the southern part of Everglades National Park. These birds regularly feed in the coastal estuaries directly downstream from the Big Cypress for 2 to 3 months in late fall and early winter while enroute to their nesting areas. Also, in years when an early drought in their usual feeding grounds threatens their breeding success (most recently in the spring of 1967), wood ibis make one-way flights as long as 45 miles from park nesting colonies to feed in the eastern Big Cypress along Levee 28 in the immediate area of the jetport.

*Roseate Spoonbill.* This species nests in Florida only in Florida Bay, but large numbers of immature and sub-adult spoonbills feed in the Big Cypress and its associated estuaries during much of the year. Sub-adults of the Florida Bay

population numbering 6-700 (roseate spoonbills require 3 years to reach maturity) concentrate in summer in the Ten Thousand Islands region of the Big Cypress estuary and move to interior estuarine areas to feed in late fall and early winter. From midwinter to spring, sub-adults, plus fledged young, disperse northward from the Florida Bay colonies and feed heavily in the eastern Big Cypress and adjacent Everglades.

*Florida Everglades Kite.* The main habitat of this species is in Loxahatchee National Wildlife Refuge (Conservation Area No. 1), and Conservation Area No. 2A, where permanent flooding favors high populations of the marsh snail, *Pomacea paludosa*, which is the Everglades Kite's only known food. Scattered individuals (mainly immature birds) range widely over the Everglades and into the eastern Big Cypress at times of high water in summer and early fall, and feed wherever snails are available.

*Southern Bald Eagle.* The history of this species since the early 1950's is one of widespread nesting failure and rapid disappearance from most of its former range. The estimated 125 breeding pairs that nest in south Florida and interior central Florida appear to be the only population of southern bald eagles that is still reproducing adequately. About 20 percent of this population inhabits the Big Cypress and the coastal estuaries whose ecology is influenced by drainage from the Big Cypress. Most bald eagle nests in the Big Cypress interior are located in the transition area between the eastern Big Cypress and the Everglades. These include three recently active nests on or near the jetport lands.

*American Osprey.* It has become evident within the past 3 or 4 years that ospreys are decreasing rapidly in the same pattern earlier shown by bald eagles. Formerly abundant populations of the Great Lakes, the New Jersey coast, and Long Island Sound are declining to extinction levels because of wholesale nesting failures related to environmental concentrations of persistent chlorinated hydrocarbons. As with the bald eagle, it appears the osprey's last stand in the eastern United States may be made in south Florida, where a still-thriving population estimated at 1,000 adults occurs south of the line Cape Romano-Big Cypress-Cape Florida. Roughly 40 percent of these inhabit the Big Cypress area, principally in its downstream estuaries.

*American Peregrine Falcon.* The peregrine falcon became extinct as a breeding species in eastern temperate North America in the early 1960's. It survives in the Arctic, whence populations migrate annually through the eastern United States to winter mainly in South America. Part of this flight, estimated at 75 birds, passes through the Gulf Coast estuaries of the Big Cypress during spring and fall. A lesser flight, of possibly 20 birds, follows the eastern edge of the Big Cypress. Occasional birds winter both on the coast and in the interior, when suitable concentrations of prey species (ducks, shorebirds) are present.

*Florida Sandhill Crane.* Sandhill cranes are permanent residents throughout the pine and prairie regions of the Big Cypress and a few pairs also breed in coastal marshes downstream from the Big Cypress.

*Cape Sable Sparrow.* This rare, relict species is known only from downstream areas of the Big Cypress drainage where small colonies occur in the tenuous belt of *Spartina* marsh found along the interface between the Big Cypress and the coastal mangrove swamps. The species appears to be extremely vulnerable to any disturbance of its habitat, either by fire or by inland extension of the mangrove belt.

*Short-tailed Hawk.* The short-tailed hawk is found in the United States only in scattered areas of peninsular Florida where the total population may not exceed 150 adults.

*Red-cockaded Woodpecker.* This species is closely limited to mature pine forest and has disappeared from much of its former range as pine forests were cut



over. Pine tracts of the southern and northeastern Big Cypress harbor what is probably the largest remaining population of the southern Florida subspecies.

In addition to those species officially listed as rare and endangered, substantial portions of the total United States population of at least four other rare or otherwise notable bird species are seasonal or year-round inhabitants of the Big Cypress area.

*White Pelican.* Most of the white pelicans that breed east of the Continental Divide winter in southwestern Florida. This population, totaling 4,000 to 5,000 birds, feeds in estuaries of the Big Cypress drainage in late fall before moving farther south.

*Anhinga.* The anhinga has a wide range in the southern United States, but one of its chief population centers is the Big Cypress where it nests commonly in many cypress sloughs and ponds. The population there is estimated at around 1,000 adults.

*Swallow-tailed Kite.* Once widespread in the United States, swallow-tailed kites are now largely confined to less disturbed parts of the Florida peninsula. The estimated 350 adults that breed in the Big Cypress and its estuaries probably represent at least one-quarter of the United States population. The species is migratory and is found in the area from late February or March to early September.

*Limpkin.* Limpkins, found in the United States only in peninsular Florida and southeastern Georgia, are particularly common in the Big Cypress. The population there probably exceeds 1,000 adults.

Most of these birds are already hard-pressed and have small, generally declining, populations in the United States. Continued reduction or degradation of their remaining habitat is certain to cause further population declines and, ultimately, extinction. If development of the jetport and lands around it causes significant environment damage through drainage, eutrophication, pesticide pollution, or other adverse change, then heavy losses to birds that now depend upon habitat in the Big Cypress and its downstream estuaries are inevitable. The endangered species that seem most precariously situated are the Cape Sable sparrow and wood ibis.

The United States stands to lose at least 50 percent of its wood ibis population if the critical feeding grounds in the Big Cypress are drained. In this species and other wading birds that nest in dense colonies, social stimulation plays a major role in nesting success. Below some lower limit of colony size, nesting often fails regardless of ecological conditions. This exact point of no return for a wood ibis population is not yet known.

Effects upon other bird species will develop more slowly as productivity declines and pollution increases in the estuaries that receive drainage from the fully developed Big Cypress. The existing load of persistent pesticide residues in Everglades National Park estuaries is near the level at which biological damage to the susceptible species (brown pelican, bald eagle, osprey) at the top of food chains becomes predictable.

Four mammals found in the area, the mangrove fox squirrel, the manatee, the Florida panther, and the Everglades mink—are considered rare and endangered species.

A total of 15 to 20 amphibians and 55 to 60 reptiles are present in the area. Little is known of the life history of a great majority of these species, but many of them, due to their great numbers (frogs, box turtles, anoles, etc.) and/or size (alligators, diamondback rattlesnakes, etc.) are important members of food chains within the Everglades ecosystem. Modification or destruction of this ecosystem would likely have considerable effect on the distribution and numbers of most of these species—in particular the rare and endangered American alligator.

Alligators in this area occur in the cypress heads which have some water year round. Low-water periods render these heads and thus the alligator more accessible to man's modern transportation. Artificially altered water level would not only increase this activity but would alter the habitat itself, thus lowering numbers further or even eliminating the species from the Big Cypress Swamp.

A number of birds, often regarded as game species, reside or spend a portion of the year in the Big Cypress Swamp area.

Waterfowl will no doubt be adversely affected during an early phase of development—the drainage stage. Drainage activities will deprive these birds of feeding and nesting habitat. Waterfowl that winter in the estuaries along the Gulf Coast will also eventually be affected when the adjacent lands approach full development. The alterations in the seasonal flow of the surface water, and in its quantity and quality, will affect the plants and organisms upon which these aquatic birds depend for their subsistence.

Sudden and large-scale alterations of this ecosystem (such as would occur with development of the jetport and satellite development) can certainly be expected to have a serious impact on all wildlife that are dependent upon the stability and productivity of the region for their welfare and survival.

The seasonal fresh water run-off from the Big Cypress passes into a broad mangrove-dominated estuarine zone along the coast, comprising about 430 square miles, including its mangrove forests, prairies, and estuaries, as compared to the 1,200 square miles of the Big Cypress tributary area. The coastal zone within the influence of Big Cypress drainage contains about one third of the total mangrove-estuarine complex of Everglades National Park. It also includes about one third of the proposed Cape Romano-Ten Thousand Islands Aquatic Preserve—the establishment of which is now under consideration by the State of Florida. The limits of the Big Cypress drainage within the coastal mangrove zone are poorly defined; the coastal zone that is subject to its influence extends approximately from Lostmans River on the south to Fahka Union Bay on the north.

Within the 430 square mile area, approximately 40% consists of mangrove, 20% of higher uplands, and 40% of ponds, streams and bays. The area includes all of the northwest portion of Everglades National Park, and somewhat beyond. It includes about half of the coast area known as the Ten Thousand Islands.

The coastal zone is characterized by levels of productivity and species diversity as high as can be found within the continental United States. In addition to its very large bird populations, the area produces or maintains hundreds of species of aquatic organisms.

Some of the better known aquatic species which occur in this area are:

Manatee (rare and endangered species); loggerhead turtle (nearing rare and endangered status); alligator (rare and endangered species); mullet; tarpon; snook; sheepshead; spotted sea trout; channel bass (red fish); mangrove snapper; popano; black drum; flounder; grunt; yellow tail; oyster; blue crabs; stone crabs; spiny lobster; pink shrimp.

Many more species known to be important forage organisms, such as anchovies, mojarra, pin fish, killifish, mosquitofish, crayfish, and grass shrimp are abundant here.

Mollusks include conchs, murex, whelks, tulips, Junonia, cones, ark, southern quahog, sunray venus, angel wing, razor clam, oysters and many others.

The average annual production of the ten top commercial fish species is in excess of one million pounds, including: bluefish, channel bass, grouper, king mackerel, mullet, pompano, sea trout, spanish mackerel, mangrove snapper and stone crab. Some of these, even though taken in the offshore waters, are dependent on the food organisms produced within the coastal zone.



The importance of the mangrove-estuarine zone of the coast, as denoted by the abundance and diversity of the species present, is related to the fact that it provides a protective harbor (especially for juvenile organisms) and rich sources of food.

In general, many of the marine species occupy some portion of the protective brackish coastal zone as juveniles, but later move seaward. Protection within the estuary is derived from the lower salinities and the grasses and mangrove roots which afford abundant shelter. Some species, such as the fresh water killifishes, and mosquitofishes, remain within the area throughout their life. Some marine species do likewise, including many forage species and the popular spotted sea trout. It is well known that fishes such as tarpon, snook, mullet, redfish and others move freely to the open Gulf as they grow.

The importance of the mangrove estuarine zone is dramatically illustrated in the life cycle of the pink shrimp which supports the commercial fisheries of the Sanibel and Tortugas grounds. Extensive research has shown that the pink shrimp spawn on the fishing grounds and that the newly spawned larvae migrate to the coastal estuarine areas. Here, because of the abundant food and the protection afforded by estuarine conditions, the larval shrimp develop through the post-juvenile stages and then migrate seaward to the above mentioned fishing grounds where they support the valuable commercial fisheries present there. An interruption of this life cycle through a loss of the coastal estuarine areas will severely deplete if not totally eliminate the shrimp fisheries.

The richness of the estuarine system is to a large degree dependent on red mangrove and on brackish water conditions.

That the energy source provided by mangroves is important not only within the mangrove zone but extends well beyond the forest and into the adjacent bays and coastal areas. The dead plant materials from these trees is transported from the mangrove forests to the bays and coastal areas principally in the months November through February, when northeast winds blow coastal waters off shore, causing gravity drainage of fresh and brackish detritus-laden waters from the marshes. The material is then available to many species which are unable to tolerate estuarine conditions.

#### (e) Noise

Any construction or development activity in the Big Cypress Swamp which leads to its drainage will alter the hydroperiod in the coastal zone. This would result in faster run-off during the wet season, and an extension of the dry period. Even if the annual volume of run-off passing through the coastal zone is unchanged, the seasonality of flow would be drastically altered.

All of the organisms in the coastal zone are adapted to a long period of brackish water conditions that extends beyond the rainy season. If these conditions do not continue, spawning periods and estuarine nursery activities will be out of phase with the artificially created hydroperiod. The rapid degradation of mangrove detritus that occurs under brackish conditions will also be reduced and the detrital food chain markedly disrupted. With these disruptions, the estuarine and offshore Gulf waters will be unable to support the high population levels of aquatic species that they now do.

The Federal Aviation Administration has estimated the level of such noise, and the scope of areas affected outside the boundaries of the jetport has been identified. Their projections are based on the airport functioning as a training facility accommodating 225,000 annual operations while a single runway facility, and 350,000 annual operations when equipped with a second runway. The Federal Aviation Administration's estimate shows that a perceived noise decibel (PNdb) level of 100 (Zone 2) will extend westward from the jetport's west boundary a distance of about 6 miles and eastward from its east boundary about 7 miles over Conservation

Area No. 3. Laterally, the same noise level will occur at a point about one-quarter mile south of the jetport's southernmost boundary, or when viewed from the tranquility interest of the Everglades National Park, at a point about 5 3/4 miles north of the northernmost boundary of the park.

As previously indicated, while the jetport operates as a single runway facility, its serving traffic pattern will lie to the north, thus the foregoing represents the Federal Aviation Administration's estimate of the degree of initial noise intrusion on the park except for occasional transitioning overflights. However, when a second runway is added, a southern traffic pattern must be utilized. This will cause aircraft to fly parallel to the park's northern boundary at a distance of about one mile and generally at an altitude of 2,500 feet. During that time, the noise level directly below the aircraft will approximate 78 to 82 PNdb's.

During takeoff present-day jet aircraft produce noise levels in the 120 PNdb range, three miles away.

Aircraft utilizing the south runway would pass close to the northern border of the Everglades National Park, and almost directly over Indian villages near the Tamiami Trail and in the Big Cypress. All aircraft from both runways would pass directly over Conservation Area No. 3A, immediately to the east of the runways. Regardless of wind direction or changing of the takeoff-landing orientation, the above pattern apparently would remain firm. Flying altitudes for these training flights will range from 1,500 to 2,500 feet.

The intrusion of aircraft noise into the Everglades National Park must also be recognized as a major impact of the defendant's actions.

Aircraft noise will most certainly intrude into the park and destroy the wilderness character of much of the area. Physiological damage to wild bird and animal populations may be a possibility and the noise will, without question, severely affect the lives of the Indians along the Trail—to their own and the Nation's detriment.

#### (f) Bird Strikes

Aircraft approaching the jetport from any direction must overfly extensive swamps and marshes where concentrations of feeding water birds occur at times. Particularly in winter, along distant approaches from the southwestern quadrant, these flocks may exceed 50,000 birds and may include numbers of white pelicans and wood ibis, species that habitually soar to high altitude. Aircraft have recorded damaging strikes of large soaring birds at altitudes above 5,000 feet.

The potential bird strike problem at the Big Cypress Jetport has two main aspects: (1) the predictable hazard that will result from the seasonal feeding movements of flocks of large water birds in the immediate area; and (2) hazards that may arise because habitat changes introduced by the jetport attract certain wildlife species.

Large numbers of wading birds regularly feed in the Big Cypress from late fall through the winter, except in years of extreme flood or extreme drought. In their usual pattern, the birds feed intensively in local areas for a few days to several weeks (commonly in massed flocks that may include 10,000 individuals of a dozen species) and then move to another area. The ecological basis for this pattern is the concentration of aquatic food organisms in local ponded areas as the surface water drops during the winter dry season. In average years, feeding wading birds tend to move seasonally from northwest to southeast across the Big Cypress and into the western part of Conservation Area No. 3A, where considerable activity usually persists until rising water from the May-June rains disperses the aquatic animals.

Around the jetport, heavy feeding by wading birds may be expected to start about mid-February in average years, and as early as December in dry years. In



very wet years, such as the winter of 1968-69, when there is a continuous sheet of surface water through much of the winter, wading bird concentrations in the area may not reach significant size. Feeding in the jetport area and along the west edge of Conservation Area No. 3A may be expected to continue as long as the deepest sloughs hold appreciable amounts of surface water—two or three months in average years and less in dry years. Locally, feeding is likely to begin wherever water flow is restricted, as at culvert mouths and along the margins of canals and borrow pits, and flocks will move from these places to adjacent marshes, ponds and sloughs as the surface water falls. During times of heavy feeding, there will be continual movements of bird flocks over short distances and at low altitudes from one feeding spot to another and from feeding grounds to local loafing areas and night roosts. Considerable daily in-out traffic of birds that are nesting elsewhere will also occur. A large part of the in-out flight is likely to be made up of wood ibis, which are birds that soar to high altitudes on thermals, and then glide off the tops of these rising air currents in the direction of their destination.

The developed area of the jetport will tend to attract wildlife for several reasons. As noted above, culvert openings, cleared areas along the runways, and the edges of borrow ponds and canals are likely to attract herons because they offer favorable feeding opportunities. The edges of some jetport borrow ponds will be sloped specifically to provide feeding places for water birds. Any interruption of surface flow by land fill is likely to attract waterfowl, and, if fish populations develop, ospreys will fish there. Thermal air currents rising from the extensive flat surfaces of the jetport runways, roofs, and roads will attract soaring birds, especially when the area around the runways is flooded. When surrounding areas are wet, natural thermal convection currents are sporadic whereas such thermals will be more frequent and intense over the runways.

Potentially the most serious problem of wildlife attraction is the invasion of the jetport runways by terrestrial animals.

Upon information and belief the training runway will be enclosed by ordinary 2-inch mesh chain link security fence 6 feet high and topped with a 1-foot slanting section of barbed wire. A supply of fence of this type is stockpiled at the jetport site. As shown in the plans, the fence will be located well away from the edges of the runway fill leaving approximately 625 acres of unaltered land surface within the fence. About 370 acres of this area will be cleared of natural vegetation (small cypress trees) and the remainder will be left undisturbed.

The fence presumably is intended to keep larger animals off the runway, but its effectiveness is open to some question. Mature deer, for example, are readily able to jump a 7-foot fence, if they have any reason to do so. Elsewhere in southern Florida, deer appear to be attracted to the fertilized grass strips on road shoulders. Grassy runway shoulders may be a comparable attractant. The plans available show that the bottom of the fence will be about two inches above the natural land surface. Because the ground in this area has an intricate micro-relief of two feet or more due to solution holes in the underlying limestone, it seems likely that such animals as marsh rabbits, otters, raccoons, turtles, and even fair-sized alligators may be able to get under the fence at many places.

The problem that may arise from large numbers of small animals has apparently not been considered. The normal movement of forms abundant in the area, such as various frogs, and the attraction of such animals as snakes and small mammals to the filled areas as flood refuges may be expected to bring numbers of these animals into the vicinity of the runway. The planned fence will not restrict movement of animals of this size, and considerable populations of some forms are likely to continue to live inside the fence. Such small animals may pose no direct hazard to aircraft, even if numbers invade the runways, but any appreciable

quantity killed on the runways will attract carrion-feeding birds (bald eagles, turkey vultures, black vultures, common crows, boat-tailed grackles).

By contrast to the above, the Big Cypress Swamp Jetport is being built on fill in an aquatic wilderness that supports a complete complement of native wildlife. The facilities are merely superimposed upon habitat that commonly attracts thousands of large water birds when feeding conditions are favorable. Feeding grounds attractive to birds will virtually surround the runway areas. All the ingredients of a potentially serious bird strike problem exist at the Big Cypress Swamp Jetport.

The Federal Aviation leaflet, "Bird hazards to aviation" (AC 150/5200-1), states that direct control of offending birds is not recommended at airports where bird strike problems develop. Rather, "The solution is to make the airport unattractive to bird life." "Serious municipal attention and aggressive airport planning and implementing action should be taken to fill, level, and clear airport and adjacent lands of all ponds, swamps, edible waste dumps, feed pens, and berry and seed bearing shrubs and bushes which create bird refuges and increase bird hazards as feeding, bathing, loafing, and nesting places. Birds are attracted to: garbage dumps; food and fish processing wastes; feed pens and piggeries; ponds, sloughs, and swamps (including man-made lakes and reflecting ponds); sewage lagoons and outfalls; seed and fruit producing plants and trees; tall grasses, reeds, and shrubbery. Such areas should be eliminated from the airport vicinity by municipal pressure and influence; by relocation; or by draining, leveling, and surfacing with materials unattractive to bird life, such as gravel."

Reasonably literal application of the above directive would require that the area surrounding the Big Cypress Jetport must be denuded, drained, and filled, and that adjoining parts of the Big Cypress and Conservation Area No. 3A must be kept free of surface water.

#### (g) Indian Tribes

In the early 1500's the Creek Nation was made up of two language groups. One was the Muskogee and the other was the Hitchiti-speaking group, which later adopted the name of "Mikasuke" (Miccosukee). The present day Miccosukee Indians at one time were located in what is now the Carolinas and Georgia. Later they settled in north Florida in the town of Miccosukee, which is between Tallahassee, Florida, and Thomasville, Georgia. Here the Miccosukee Indians intermingled and married among the Seminole and the Aboriginal Indian tribes of ancient Florida: Timucua, Tequesta, Apalachee, and Calusa. However, the Miccosukee retained their own identity and language. The Miccosukees were traditionally hunters and fishermen in contrast to the Muskogee Indians who were farmers and animal raisers. It was the Miccosukee Tribe that furnished most of the battle leaders in the Seminole Wars of the 1800's.

As the settlers continued to arrive from the north, the Miccosukee Indians moved southward from north Florida. In south Florida, they built log cabins as they had built in their former home in the north. They wore buckskin clothing and, overall, little culture changes took place. Later, influenced by contact with European settlers and materials they brought, adaptations took place. In the 1800's the garments became heavily beaded with colorful combinations of handsewn print fabrics. As they retreated further into the subtropical Everglades to avoid being sent to Indian reservations in the west, dramatic changes became evident. The warmer climate influenced the elimination of buckskin as a raw material for clothing. Styles were influenced almost exclusively by trade fabrics. Since foot or wagon travel was almost impossible through the Everglades' swamps, dugout canoes, hewed from cypress trees, were their most common mode of transportation.

Most of the present day Miccosukee Indians live in the vicinity of the northern boundary of the Everglades National Park. When the National Park was estab-



lished, these Indians were asked to settle on lands in Broward and West Palm Beach Counties. This area was designated as the Florida State Indian Reservation for the use and benefit of all the Indians of Florida. However, most of the Miccosukee Indians prefer to live along the Tamiami Trail, in that area extending from the western limits of Miami to Naples, some 100 miles to the west.

In the past, the Miccosukees made a bare subsistence by selling Indian-made dolls, jackets, drums, and other artifacts and by hunting, fishing, and light gardening. The swift and extensive economic development of south Florida, beginning at the turn of the century, had a most significant effect on the Miccosukees. Construction mushroomed and interconnecting highways found their way through the formerly impenetrable Indian lands. The subtropic Everglades began to accept the non-Indian and, with the coming of modern civilization, problems accompanied progress. The primitive resources of the Indians were markedly reduced. New laws prohibited some of the old ways of obtaining food as land areas shrank in availability. Some Indians began to work on vegetable farms in the area and others engaged in part-time occupations. During the period from November to March, the Indian men still go into the Everglades and hunt frogs which they sell in Miami where frog legs are a common item on dinner menus. They still depend to a large extent on fish and wildlife resources of the area to supplement their daily subsistence requirements.

From an isolated community that was nearly self-sufficient the Miccosukee people have been thrust into the rush of the 20th century. Need developed for more money, education, and all that is associated with the white man's present-day way of life. Much of the land on which they once roamed and hunted was developed, "posted", and eliminated as a source of their livelihood.

On January 11, 1962, the Miccosukee Constitution was approved by the Secretary of the Interior and the Tribe was officially organized and recognized. Members of the tribe, although in many cases related by blood to members of the Seminole Tribe of Florida, have no direct connection with the Seminole Tribe organization of Florida. Membership in the Miccosukee Tribe is open to Indians of at least half Miccosukee or Seminole Indian Blood, and who are not enrolled as members of any other tribe of Indians. At the present time, there are approximately 230 enrolled Miccosukee Indians and about the same number of non-enrolled Indians living in the general area along the Tamiami Trail.

Of the 88 Miccosukee families censused in 1968, 74 had an annual income of less than \$3,000. Of this number, 34 had incomes of less than \$1,000, 15 incomes from \$1,000 to \$2,000, and 25 had incomes between \$2,000 and \$3,000. This income is often supplemented by fish and wildlife resources to a considerable degree. The ability to utilize fish and wildlife as food sources is especially important to those families whose cash income is substandard. Until 1962, the Miccosukee Indian children did not attend school. After the tribe was formally organized, the Bureau of Indian Affairs and the Dade County School Board mutually supported a school program. The Miccosukee Indian children are accepted in the Dade County school system. However, tribal leaders are of the opinion that the language barrier and the age of those beginning school for the first time will require much preparatory work before the children can be expected to function properly in the alien atmosphere of a public school. For this reason, a preparatory school administered by the Bureau of Indian Affairs has been provided. Students through the fourth and fifth grade level, who range in age from 6 to 18, receive schooling in this facility prior to enrollment in public schools.

In 1962, the Bureau of Indian Affairs, with cooperation of the National Park Service, acquired the use rights of a small area of the northern boundary of Everglades National Park to be used as a home area for the Miccosukee Indians. It is in this area that the school and other facilities provided for the benefit of the Indians are located. Also in this area, through the cooperation of the Bureau of



Indian Affairs and the Tribal Housing Authority, it was possible to build homes for the Miccosukee people. "Modern Chickees" were built. These are quite large and well ventilated wood frame buildings with wooden floors, electric lights, hot water, electric ranges, and complete sanitary facilities. The roofs are thatched with palm fronds.

In December 1964, the tribe opened a modern restaurant, beautiful in architectural design and situated approximately 35 miles west of Miami along U.S. Highway 41. The interior of the restaurant displays many beautiful pieces of Indian art work. Immediately adjacent is a modern service station and grocery store. These enterprises provide employment for many of the members of the tribe. Individual members of the tribe also operate small arts and crafts shops.

With regard to land resources of the tribe, the State of Florida has dedicated in perpetuity three parcels of land (Home Area) adjacent to U.S. 41 (Tamiami Trail). This total land is appraised at \$23,500, yet the tribe has invested \$159,000 in facilities in this area. Also 104,800 acres of Indian land is held in trust by the State. The Miccosukee portion of this area is 76,800 acres, and include the mineral resources on those areas. Because of the nature of their dependency on the small areas of land available the impact of both highway construction and the jetport will be very serious.

If highway I-75 were to be constructed due east from the jetport (across Conservation Area No. 3), it would have the effect of detouring traffic away from the Indian enterprises and possibly forcing their commercial facilities to close from lack of business. Some automobile tourists would probably still travel U.S. 41 to visit the Indian villages, but whether or not the number would be sufficient to maintain their enterprises is questionable. The way the Miccosukee Indians themselves regard the development of the jetport has probably been best expressed by their chairman, Buffalo Tiger, who said, "We don't think that we have any chance of stopping the jetport from being put there, but we do think the Federal Government should do something for us Miccosukees. Everybody talks about progress—but progress is ruining the Indian. It is just another example of the white man's cheating the Indians of their birthright. We have 486 Miccosukees in this area. The Miccosukees like to fish and hunt. We have villages along the Tamiami Trail where we make our living. All this will go. The game in the Everglades will be chased away by the screaming of the jet engines. There will be no fish in the canals and streams and soon there will be no business for us on the Tamiami Trail."

Throughout their history, the Miccosukees have moved from place to place because their home lands in the vastness of the Everglades wilderness were coveted by others. Now there is no further line of retreat.

The Seminole Tribe of Florida may be only slightly better off because of the greater distance from the jetport to their reservation lands. Their future is tied to the future of the surface water—its quantity, quality, and distribution. Further developments increase the demand on this resource, which in turn jeopardizes the Seminole enterprises and way of life.

#### (h) Fire and Smoke

The Big Cypress is subject to extensive wildfires in the winter and spring of most years. Commonly, in years of severe drought (most recently 1945, 1950, 1951, 1956, 1962 and 1965), half or more of the area has burned. Enough area to represent a substantial wildfire hazard is burnable for at least 4 to 6 months in average years and longer in dry years. Statistics on wildfire occurrence are available only for the year July 1, 1968–June 30, 1969 (a period of unusually high water) during which the Florida Board of Forestry recorded a total of 43 small wildfires in eastern Collier County east of State Route 840A).

Because construction of the training runway coincided with a wet winter, jet-



port planners may not have appreciated fully that dense smoke from wildfires has sometimes persisted in the Big Cypress for weeks in dry years. Smoke has forced closing of highways across the area and, on occasion, it has interfered seriously with traffic at Miami and Fort Lauderdale airports. Existing airports have been affected only when westerly winds carried smoke from wildfires over the east coast. By contrast, the Big Cypress Swamp Jetport is surrounded by burnable, mainly roadless, wild land extending more than 50 miles in almost every direction. Its operations will be vulnerable to drift smoke from every quarter.

Natural fires set by lightning occur in the Big Cypress, but most fires in the area are man-caused, and the probability of man-caused wildfires is more or less directly proportional to the number of people at large in the area. Thus, wildfire incidence is likely to increase as population around the jetport increases. Any drainage of the area in development of the jetport and its surroundings will tend to lengthen the period during which vegetation is burnable and to decrease the number and efficiency of natural barriers to the spread of wildfire. In an unaltered setting, smoke from wildfires seem certain to be a considerable problem to jetport operations at times. The principal changes likely from further development in the area will tend to intensify the problem.

#### 11. Plaintiffs Complain:

That the actions of the defendants will directly destroy at least 400 acres of natural habitat of the Big Cypress Swamp and cause serious, permanent and irreparable damage to the Everglades-Big Cypress Regional Ecosystem.

That pollution of the air from the effluent of aircraft engines will cause serious, permanent and irreparable degradation to the environment of the Everglades National Park.

That the Miccosukee Indians will be suddenly and involuntarily subjected to round-the-clock noise levels commonly experienced by urbanites who live very near airports in many cities. There will be frequent high level noise intrusion on the wilderness character of the northern part of Everglades National Park and even more on the Big Cypress and Conservation Area No. 3.

That the defendants' activities will increase hazards to aviation from bird strikes within the airport boundaries, over Conservation Area No. 3, and in the quadrant southwest from the training strip. Such bird strikes would involve large water birds, including several rare and endangered species at altitudes ranging from ground to 2,000 feet. Small animals which seek refuge on the runways in flood periods will add to this problem when they are crushed and attract carrion-eating birds.

That the combination of bird strikes, pest insect problems and incidence of small animals on runways will probably lead to drainage of at least part of the jetport property. This is the Federal Aviation Administration recommendation in wetland areas for control of bird strikes. The Dade County Port Authority has announced no such plans, but has the capability and authority to construct canals for drainage within and without the port boundary, and use eminent domain authority on exterior lands. To be effective, any drainage effort would have to cover a large area using a grid of drainage canals. Drainage would materially increase the occurrence of fires, and such drainage will substantially and irreparably alter the characteristics of the Everglades-Big Cypress Regional Ecosystem.

That construction and imminent operation of the first training strip have elevated surrounding land prices and increased sales. Economic and social pressures for further development within and without the port property will mount rapidly, the one encouraging the other. Such development for housing, trade or industry will inexorably lead to land drainage outside the jetport property. Land development and drainage will be accompanied by increased nutrient levels in the

water, will alter the hydroperiod, and will promote eutrophication. To the extent and at the rate these changes take place, the south Florida Regional Ecological system will sustain serious, permanent and irreparable damage.

**Comment:**

Following an extensive recital of the effects to be expected for the activities proposed by the defendants, narrow the issues for the court by pleading specifically just what it is the plaintiffs are complaining about. This should be done in just sufficient detail to relate to the previously pleaded recital of the general effects to be expected from the defendants' actions.

**12. Equitable Jurisdiction**

This action is properly brought in Equity before this Court on the following grounds:

(a) The subject matter is equitable in nature.

This action is brought for the purpose of restraining the Defendants from damaging the unique national natural resource treasure—the Everglades National Park and its supporting regional ecological system, and doing irreparable injury which cannot be adequately compensated in damages to the class represented by Plaintiff. The declaratory judgment and injunction demanded by the Plaintiff are equitable remedies and the substantive character of the rights sought to be enforced by the Plaintiff are historically in the province of a court of equity.

(b) There is no adequate remedy at law.

The law does not afford any adequate remedy for the contemplated wrong resulting from Defendants' action. There is no plain, adequate and complete remedy at law as practicable and efficient as the equitable relief sought herein, nor are the damages sustained by the class represented by Plaintiff as a result of the Defendant's actions capable of adequate determination in any action at law.

WHEREFORE, the plaintiff on behalf of all those entitled to the full benefit, use and enjoyment of the national, natural resource treasure that is the Everglades National Park without degradation or diminution in value resulting from the development of the *Big Cypress Swamp Jetport*, and all others similarly situated, not only of this generation but of those generations yet unborn, demand judgment of the defendants.

(a) Declaring

the rights of the people of the United States in and to the full benefit, use and enjoyment of the national, natural resource treasure, the Everglades National Park, without degradation or diminution in value from the operation and development of the *Big Cypress Swamp Jetport*.

(b) Declaring

that the Defendants' actions violate the rights of the plaintiff and all the people of the United States not only of this generation but of those generations yet unborn, guaranteed under the Ninth Amendment of the Constitution of the United States and protected by the *due process* clause of the Fifth Amendment of the Constitution of the United States and by the *due process* and *equal protection* clauses of the Fourteenth Amendment of the Constitution of the United States.

(c) Restraining

the defendants jointly or severally, individually or in concert with others, from any operation or development of the *Big Cypress Swamp Jetport* that will cause



serious, permanent or irreparable damage to the national, natural resource treasure, the Everglades National Park,

(d) Restraining

the defendants jointly or severally, individually or in concert with others, from continued use of the existing facilities of the *Big Cypress Swamp Jetport* for aircraft operations, training or otherwise, except in the case of extreme emergency.

(e) Together

with any and all such further relief as to this court shall seem just and proper under the circumstances.

Dated: March 10, 1970

Victor John Yannacone, jr.  
YANNAcone & YANNAcone  
*Attorneys for the Plaintiffs,*  
Patchogue, New York 11772