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Waterways: Comprehensive Regional Plan Series Report Four

East Central Florida Regional Planning Council

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THE EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL WAS FORMED IN 1962 WHEN IT BECAME APPARENT THAT THE BUILD-UP ON FLORIDA'S EAST COAST OF THE FREE WORLD'S FIRST SPACEPORT WAS CREATING GROWTH PROBLEMS THAT COULD NOT BE SOLVED AT THE COMMUNITY OR COUNTY LEVEL.

THE ORIGINAL MEMBER COUNTIES WERE BREVARD, INDIAN RIVER, ORANGE, OSCEOLA, SEMINOLE AND VOLUSIA. LAKE COUNTY BECAME PART OF THE PLANNING REGION IN 1963.

THE PLANNING COUNCIL'S INITIAL CONTRIBUTION TO GUIDANCE FOR THE REGION'S EXPLOSIVE GROWTH CONDITIONS CAME IN THE FORM OF A PRELIMINARY REGIONAL PLAN, COMPLETED IN JUNE, 1963. THIS WAS A PLAN OF BASIC CONCEPTS WHICH SERVED AS A FRAMEWORK FOR TACKLING REGIONAL PROBLEMS AND HELPED FOCUS ATTENTION ON THE REGION'S NEEDS AND OPPORTUNITIES.

STEP TWO INVOLVED THE MONUMENTAL TASK OF ANALYZING EAST CENTRAL FLORIDA'S RESOURCES, PROBLEMS AND POTENTIALS IN DEPTH. THE PLANNING COUNCIL'S 1965 RESEARCH SERIES PRODUCED 14 REPORTS, EACH COVERING A SEPARATE ASPECT OF THE REGION'S GROWTH AND DEVELOPMENT. TOGETHER THESE REPORTS ESTABLISH THE FACTUAL BASIS FOR LONG-RANGE PLANNING. COPIES OF THE RESEARCH REPORTS CAN BE OBTAINED FROM PLANNING COUNCIL HEADQUARTERS IN TITUSVILLE.

STEP THREE, COMBINING THE PLANS FOR THE VARIOUS ASPECTS SO THAT RECOMMENDED DEVELOPMENT IN EACH FIELD WILL COMPLEMENT AND ENHANCE DEVELOPMENT IN THE OTHER FIELDS, PRODUCED THE COMPREHENSIVE REGIONAL PLAN, OF WHICH THIS REPORT IS A PART.

COMPONENTS OF THE COMPREHENSIVE REGIONAL PLAN

REPORT ONE - LAND USE
REPORT TWO - HIGHWAYS
REPORT THREE - AIRPORTS
REPORT FOUR - WATERWAYS
REPORT FIVE - OPEN SPACE & RECREATION

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WATERWAYS

Comprehensive Regional Plan Series

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EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL
2323 South Washington Avenue
Titusville, Florida 32780
The East Central Florida Region is naturally endowed with an abundance of waterways. This report calls attention to our opportunity to multiply the value of these waterways by weaving them into a system -- an opportunity that could inadvertently be lost even before this resource is fully recognized.

This report inventories existing waterways, describes a feasible integrated system, and recommends the steps we must take immediately if we hope eventually to achieve such a goal.

The report is directed to state and county officials, to those who love boating, fishing, camping and hunting, and to all those with an interest in the Region as a place to live or visit.

As with other components of the Comprehensive Regional Plan, these waterway recommendations will be reviewed annually by the Regional Planning Council in order to make any adjustments indicated by changing circumstances.

The Council takes this occasion to express its appreciation to members of the staff who prepared the OPEN SPACE AND RECREATION report of which the waterways study is a part, and to local, state, and federal officials for their assistance and encouragement in the preparation of this report.
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BACKGROUND

Since man first entered peninsular Florida, waterways have played an essential role in survival, commercial development, and personal enjoyment. This importance is clear even in the archeological studies made of prehistoric cultures, since practically all Indian settlements were along the shorelines of their day. Pioneering white settlers in the Region usually arrived by boat, and most communities developed along these same water bodies which were often used for both water supply and transportation. Even today, most of the communities in the Region adjoin water bodies and rely on them to varying degrees for commercial transportation, recreation and aesthetic enjoyment.

Surface water bodies of many types are found in and adjacent to East Central Florida. Foremost, of course, is the vast Atlantic Ocean which serves as the Region's 140-mile eastern boundary. Just to the west behind the coastal beaches lies the Intracoastal Waterway. This federally maintained channel passes through several coastal lagoons traversing the entire length of the Region.
In addition to these saltwater bodies, the seven-county area contains hundreds of freshwater lakes as well as numerous rivers and streams. Lake County alone has more than 1,400 lakes. Of the rivers, the Kissimmee and the St. Johns are most important. All seven of the counties in the Planning Region are touched by the St. Johns as it flows northward to reach the sea at Jacksonville.

To many residents and visitors, however, the natural spring areas in the northwestern part of East Central Florida represent the greatest water asset of all. Constantly replenished from seemingly inexhaustible underground sources, Rock Springs, Wekiva Springs, Blue Springs, DeLeon Springs, Alexander Springs, Juniper Springs, and several lesser known springs in turn feed creeks or "runs" that are among the most beautiful to be found in the country.

Such a variety of surface water resources offers a golden opportunity to enhance the value of each by linking them into a planned waterway system. The dividends such a system offers are great and will be greater as leisure time increases and personal incomes rise. Already boating is a favorite outdoor sport with the Region's residents and visitors. A planned waterway system would greatly enhance their boating pleasure.
The Region's commerce, too, can draw dividends from a planned waterway system. As the Cross-State Barge Canal nears completion, the use of certain local waterways for commercial purposes can be expected to expand.

A factor that affects the Region's appeal as a place to live and visit, and also its commerce, is obviously important to the total economy. Therefore the East Central Florida Regional Planning Council undertook a study of the Region's waterways as part of its research. The waterways study is covered in the OPEN SPACE AND RECREATION report, one of the 14 reports in the 1965 Research Series listed on the inside cover of this report. The waterways study formed the basis of the Plan outlined in the following pages. This Plan was designed with the canoe enthusiast, the powerboat zealot and the commercial barge operator all in mind. Its objective is to devise a functional and feasible waterway network that will fit in with the Region's comprehensive development. This Plan has been reviewed by the Council and formally adopted as Policy Resolution 66-05, dated 25 January 1967. Appended to this report is a copy of the resolution.
CONDITIONS AND TRENDS

As with all efforts of this nature, that which exists must be melded with that which is proposed in order to produce a workable plan. The Council's first step, therefore, was to determine what exists. Accordingly, all waterway channels that are currently maintained to a given depth by some responsible authority were inventoried and located (see map on page 5). To these were added existing spring-fed creeks, which are generally not maintained by any authority and other nonmaintained waterways.

A. Maintained channel depth of 8 feet or more --
   1) Intracoastal Waterway (Volusia, Brevard and Indian River Counties)
   2) St. Johns River south to Sanford (Lake, Volusia and Seminole Counties)
   3) Port Canaveral Barge Canal (Brevard County)

B. Maintained Channel depth of 4 to 8 feet --
   1) Oklawaha River and lakes to Lake Apopka (Lake County)
   2) Palatlakaha River from Lake Emma to Lake Louisa (Lake County)
   3) Ponce deLeon Inlet (Volusia County)
   4) Sebastian Inlet (Brevard and Indian River Counties)

C. Maintained channel depth of 2 to 4 feet --
   1) Kissimmee River and lakes north to Kissimmee (Osceola County)
   2) Winter Park chain of lakes (Orange County)
   3) Windermere chain of lakes (Orange County)
   4) Sand Lake chain of lakes (Orange County)
D. Spring-fed Scenic Runs
   1) Juniper Creek (Lake County)
   2) Alexander Springs Creek (Lake County)
   3) Silver Glen Springs Creek (Lake County)
   4) Rock Springs Run and Wekiva River (Orange, Seminole and Lake Counties)
   5) Blue Springs Run (Volusia County)

E. Other nonmaintained waterways
   The Region includes numerous other existing waterways, notably the Atlantic Ocean, many of them suitable for various types of navigation. Conditions vary, however, according to seasons of the year, daily rainfall, weed control, etc. A meaningful survey under such a variety of conditions is impossible.

Trends
   Several trends which will definitely affect the future of the Region's waterways are as follows:

   1. The Central and Southern Florida Flood Control District and Southwest Florida Water Management as well as the counties, cities, and individual landowners are increasingly involved in water management projects in the Region. Every project affects a waterway with some existing or potential navigational qualities.

   2. Expanding urban development and costs involved in crossing present and potentially navigable waterways with bridges, utilities, etc., exert increasing pressure to reduce required vertical and horizontal clearances over existing waterways, or make no provisions for navigation on streams that are infrequently used at the present time.
3. Rapid urban development, high land costs, and the demand for waterfront property are causing an ever greater inducement for filling parts of our water bodies.

4. Commercial waterways across the country are being relied upon to handle larger tonnages of freight on larger vessels in order to provide more economical service.

5. A larger and more affluent population is turning to the water for recreation, and operating greater numbers of larger and more powerful motorboats and more canoes and float boats.

With this information on hand, the Council staff then considered such questions as:

How can existing waterway facilities be improved?

Which natural stream beds are suitable for inclusion in the system?

How can best advantage be taken of conservation, flood control and similar projects?

In what manner and at what points can the Region's urban population centers best be served?

What is required to accommodate various kinds of boating interests?

To what extent will waterway proposals support or conflict with both prevailing and recommended land-use patterns?

How much of the desired waterways system is feasible from a cost standpoint?
NEEDS

The Region's needs regarding waterway facilities can be described in the following fashion:

1. **Commercial Waterways.** In order to serve most commercial purposes, a waterway must be maintained at a depth of 8 feet or more and should be part of a system connecting a significant number of the Region's commercial and industrial centers. The system should also connect with major waterways that extend beyond the Region such as the Intra-coastal system and the Cross Florida Barge Canal. All types of craft down to the smallest rowboat can use these facilities although they are designed for deeper draft cargo barges and towboats.

2. **Recreational Motorboat Waterways.** Channels to serve recreational powerboats usually need not have the depth required for commercial traffic but do require a minimum of $1\frac{1}{2}$ to 2 feet. Connecting many of the existing maintained waterways together by means of waterways which either do not now exist or are not presently navigable
would greatly increase their value. An interconnected recreational waterway system would make East Central Florida truly a boaters paradise, offering opportunities for extended trips without retracing steps.

3. **Natural Canoe and Float Boat Runs.** Some portions of the Region's waterway system should be deliberately left unimproved in order to retain the flavor of Florida's wilderness. The spring-fed scenic runs and some of the other smaller waterways would lose much of their scenic quality if significantly improved for navigation.

**PLAN DESCRIPTION**

The various proposals shown on the Plan Map on page 10 thus represent the results of intensive analysis of all known factors. As finally evolved, these proposals call for a number of new connecting links as well as for certain improvements to existing waterways. In order of magnitude the recommended new or improved facilities are listed on the following pages.
A. 

Maintained channel depth of 8 feet or more -

1) Oklawaha River and lakes to Lake Apopka (Lake County)
2) St. Johns-Indian River Canal (Seminole, Volusia and Brevard Counties)
3) Ponce deLeon Inlet (Volusia)
4) Sebastian Inlet (Brevard and Indian River Counties)

B. 

Maintained channel depth of 4 to 8 feet -

1) Spruce Creek to St. Johns River via Lake Ashby and Deep Creek (Volusia County)
2) St. Johns River to Lake Tohopekaliga via the Econlockhatchee River, Lake Hart and East Lake Tohopekaliga (Seminole, Orange, Osceola Counties)
3) Lake Griffin to Lake Yale (Lake County)
4) Palatlakaha River from Lake Harris to Lake Emma (Lake County)
5) Lake Louisa to Withlacoochee and Hillsboro River via Green Swamp (Lake County)
6) Lake Louisa to Peace River via Green Swamp (Lake County)
7) Lake Louisa to Lake Tohopekaliga via new canal (Lake and Osceola Counties)
8) Kissimmee River and lakes north to Kissimmee (Osceola County)
9) St. Johns River from Lake Monroe to Blue Cypress Lake (Seminole, Volusia, Brevard, Orange, Osceola and Indian River Counties)
10) Blue Cypress Lake to Lake Kissimmee via Lake Marion (Indian River and Osceola Counties)

11) St. Johns River to Sebastian Inlet via Flood Control District (FCD) Canal C-54 (Brevard and Indian River Counties)

12) Blue Cypress Lake to St. Lucie River via FCD Canals C-52, C-25, and C-24 (Indian River County)

C. Maintained channel depth of 2 to 4 feet -

1) Tomoka River to Spruce Creek (Volusia County)

2) Howells Branch to Lake Maitland (Seminole and Orange Counties)

3) Lake Jessup to Econlockhatchee River (Seminole County)

4) Little Econlockhatchee River to State Road 526A (Orange County)

5) Boggy Creek to Lake Conway (Osceola and Orange Counties)

6) Shingle Creek to Clear Lake (Osceola and Orange Counties)

7) Lake Apopka to Johns Lake (Orange County)

8) Lake Hart to Lake Cypress via Alligator Lake (Orange and Osceola Counties)

9) St. Johns River to State Road 46 via Salt Lake (Brevard County)

10) Lake Washington to Indian River via Elbow Creek (Brevard County)

11) St. Johns River to Indian River via main canal of Melbourne-Tillman Drainage District (Brevard County)
The four spring-fed runs shown on the Plan Map include Juniper Creek (Lake County); Alexander Springs Run (Lake County); Wekiva River (Orange, Seminole, Lake Counties); and Blue Springs Run (Volusia County). While it is not essential that any specific channel depth be maintained in connection with these runs, they should be kept free of obstructions to permit the passage of canoes and similar light craft.

Undoubtedly, the first question that arises when contemplating such a system is, "Who is going to pay for its development?" The Plan does not propose that any group or agency take on this task in the foreseeable future. The immediate recommendation is that the full potential of the system be protected by treating all waterways in which there is some vested public navigational interest in a manner consistent with their possible future, as well as their existing use.

Eventual completion of the missing links to provide an integrated system connecting each river in the Region with all others would greatly enhance the attractiveness of the area to all who are interested in boating. The danger is that unless immediate steps are taken to prevent it, the navigation potential of such a system will be destroyed by low bridges, dikes, dams, culverts, etc., long before optimum waterway development would logically take place.

Existing maintained waterways are now generally protected by one or another governmental body, but the purely recreational waterways which are not maintained have little protection. Potential but nonexistent waterways present the greatest challenge since not even an aroused public can properly defend these waterways without an overall plan of protection and development administered by some authority.
Navigation potential can be protected by a variety of means. Naturally, large boats or large numbers of small craft will need gated or inflatable rubber locks. Lighter boats in areas of lesser use can be handled with boat lifts, either permanently manned or self-operated. Regardless of the present use made of any public waterway, every structure which inhibits navigation should be designed to facilitate eventual installation of at least a boat lift when conditions warrant. In streams suitable only for canoeing or other types of float boating, a pathway should usually be left open for portage around dams and spillways.

An often neglected means of enhancing the recreation potential of a waterway is a public access road to each water control structure with some means of getting a boat into the water both above and below the obstruction. A water control structure is also a logical site for a concession if use warrants, and if so a concessionaire with a pickup truck and boat trailer could easily provide transport between the two boat ramps.
Several immediate measures are imperative if the Region's unexcelled navigation potentials are to be protected and improved. While efforts to achieve some of these measures have already been initiated, those efforts must be redoubled and others undertaken to make proper management of the Region's waters possible.

1. Action at the federal level will be needed to assure proper water resource management. While navigation is a recognized federal interest, it must be stressed that our water resource should be considered as a single unit, an integral part of comprehensive development, and treated as such. No one phase of water management and development can take precedence over any other. Federal funds will certainly continue to be needed for completion of commercial navigation projects but they are also needed for other phases of water resource planning and development.

2. Some state agency must research, develop and implement an integrated commercial and recreational waterway system. Since the problem is state-wide in scope, it seems logical that this responsibility should be left with state agencies — the Waterways Development Division of the State Board of Conservation working in conjunction with the State Planning Agency. However, more emphasis must be placed on long-range water systems planning. Various categories of waterways must be established and development priorities assigned. This will require close coordination between state and local government units. Regulations must be established to control maintenance and development of each of these
waterways including control of vertical and horizontal clearance, depth maintenance, accessibility maintenance and pollution control; structure types must be coordinated and on some waterways power boats should be curtailed or restricted.

3. Before cities, counties, and local water management authorities fill water areas or dredge new channels, they should consult with conservation interests on how to improve waterways for wildlife and recreation. Any proposed improvement must be considered in relation to total water resources, not just one aspect. The single-project approach is no longer adequate. It must be abandoned in favor of the systems approach.

4. The Planning Council should and will continue to plan for management of East Central Florida's total water resource until assured of adequate management by some agency or combination of agencies. Research already initiated includes a coastal area study covering the special needs of the rapidly urbanizing easternmost portions of Volusia, Brevard, and Indian River Counties; and a more detailed study of the Region's waterway system. The detailed study should lead to specific recommendations for local governments.

5. Private conservation groups can be a potent force in waterways development and overall water management. However, to make this strong and consistent, the groups must organize, work together and present as united a front as possible. They must approach conservation calmly and thoughtfully, willing to make reasonable compromises but not to capitulate. They must be willing to give thorough consideration to
each water management proposal knowing that this will require the full-time effort of some staff personnel, presumably on a paid basis. Finally, they should see that all water management projects are reviewed by conservation groups as a preconstruction requirement.

6. Commercial and industrial interests must be encouraged to continue to promote their goals, but must always acknowledge the rights of the public to the total resource. Several essential necessary objectives are:

- channels throughout Florida's entire commercial waterway system should be at least 12 feet by 125 feet;
- industrial areas along commercial waterways should be planned for; and
- natural resources and pollution control should be the subject of strong educational efforts.
CONCLUSION

While the inhabitants of East Central Florida have a magnificent inheritance of lakes, rivers, creeks, lagoons and springs, and have linked them with a number of waterways, the Region's full waterway potential is far from being realized. As the economy and population grow, so will the need grow for a system of waterways able to handle commercial and recreational boat traffic. The need will be met only if adequate plans are made now and implemented as opportunity permits. It must never be forgotten that navigation is but one phase of total water resource management; other phases must be considered before any development takes place.
WHEREAS, the East Central Florida Regional Planning Council's primary function is to assist public and private interests in the creation of the best possible living, working and leisure-time environment for the seven counties of Brevard, Indian River, Lake, Orange, Osceola, Seminole and Volusia Counties; and

WHEREAS, the achievement of such an environment has been identified as being dependent upon the realization of certain planning and development goals, namely:

1) Improvement of the Region as a place for commerce and industry by making it more efficient, orderly and satisfactory for the production, exchange and distribution of goods and services, with adequate space for each type of economic activity;

2) Improvement of the Region as a place for living, by aiding in making it more healthful, safe, pleasant and satisfying, and by providing adequate open spaces, appropriate community facilities and recreation areas;

3) Organization of the principal functional parts of the Region -- the working areas, the community areas, the agricultural areas and the conservation areas -- so that each may be clearly distinguished from but complementary to the other, and so that the economic, social and cultural development of the Region may be furthered;

4) Protection, preservation and enhancement of the economic, social, cultural, historic and aesthetic values that establish the desirable qualities and unique character of the Region;

5) Coordination of the varied pattern of land use with public and semipublic service facilities, such as water and sewer systems, which are required for the efficient functioning of the Region, and for the convenience and well being of its residents, workers and visitors;

6) Coordination of the varied pattern of land use with circulation routes and facilities required for the efficient movement of people and goods within the Region, as well as to and from the Region;
7) Coordination of the growth and development of the Region with the growth and development of adjoining cities and counties and the State of Florida; and

WHEREAS, the Council, after considerable study and evaluation, has determined that the above goals can best be realized if East Central Florida has a functional, interrelated waterway system properly oriented to desirable land use and growth patterns, with particular emphasis on navigation, both recreational and commercial; and

WHEREAS, the Council, after thorough review and analysis, has determined that the Waterway Facilities Plan represented by the attached map is in keeping with the stated planning and development goals; and further, that said Plan represents the most feasible proposal available concerning how the desired regional waterway system can and should be developed; and

WHEREAS, the Council anticipates the need to reevaluate and update the said Plan at least once each year in order to properly reflect new inputs that may have a bearing on the agreed-upon waterway recommendations;

THEREFORE, BE IT RESOLVED that the East Central Florida Regional Planning Council does hereby endorse the Waterway Facilities Plan represented by the attached map; and further, that the Council respectfully urges that public and private interests alike in the seven-county area follow to the maximum extent possible the various guidelines set forth as part of said Plan.

Adopted by the East Central Florida Regional Planning Council on this 25 day of January, 1967.

EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL

CLAUDE H. WOLFE, Chairman

ATTEST:

DONALD E. THOMPSON, Secretary
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September 1967

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